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BAY AREA
RAPID TRANSIT DISTRICT

1995
SHORT RANGE
TRANSIT PLAN

DRAFT

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Operating Budgets & Analysis
Financial Planning Division
July 14, 1995

SRTP\FY95\DOCUMENT\SUMMARY

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THE LONG-TERM CHALLENGE

- Costs are estimated to rise at 3.5% CPI.
- Balanced plan requires revenue to rise by the same amount.
- Fares and Sales Tax are two main sources of Revenue.
- Sales tax growth is forecast to slightly exceed CPI, at 3.75% per year.
- Therefore, for a balanced SRTP, fare revenue needs to grow at 3.25% per year.
- Core system fare revenue is forecast to rise only 1.25% per year.
- Extensions, Rehab, and ADA require additional funding.
- Expense reductions have and will continue to significantly reduce resulting deficits.
- Future fare increases will be needed to make up the remaining difference, approximately 2.0% per year.

PURPOSE OF THE SRTP

- Fiscally sound plan for:
  - Maintaining capital investment
  - Improving and extending service
  - Meeting required service mandates
  - Achieving performance objectives
  - Supporting capital grant applications.
- Ridership forecast and service plan.
- Required capital projects (CIP).
- Balanced operating budget based on forecasts for:
  - Revenue
  - Expense
  - Financial Assistance
  - Allocations & Debt Service.

KEY TOPICS

- Where We Left Off
  - 1994 SRTP base deficits
  - Forecast with adopted fare package
- The Assumptions
  - Extensions
  - Population & Employment
  - Ridership
  - Service Plan
  - Financial
- Scenarios to Achieve a Balanced Budget
  - Adopted Fare Package (BART's Conservative Sales Tax Forecast)
  - Adopted w/Additional Increases (BART's Conservative Sales Tax Forecast)
  - Adopted w/Other Increases (MTC's Aggressive Sales Tax Forecast)

1994 SRTP . . .

WHERE WE LEFT OFF

1994 SRTP

Chart 1

- 1994 SRTP identified base deficits at pre-April 1995 fares.
- The base deficits included the additional financial burden of providing both ADA and extensions service, and resumption of PERS payments in FY 98.
- Deficit reduction measures were identified for cutting expense and generating additional revenue from sources other than from passenger fares.
- The 1994 SRTP projections served as the basis for the Board's actions on fares in January 1995.
- This is part of BART's commitment to:
  - Generate $200 million over 6 years for system rehabilitation
  - Provide sufficient funding to operate extension service
  - Meet federal mandates for providing ADA paratransit service.

ADOPTED FARE INCREASES
FY 95 - FY 98

Chart 2

- The BART Board adopted the following fare package in January 1995, effective beginning the fourth quarter of FY 95 through FY 98:

    - 15.0% increase effective April 1, 1995
    - 75% discount ticket rate effective April 1, 1995 (vs 90% before)
    - 13.0% increase effective April 1, 1996
    - 11.4% increase effective April 1, 1997.
    - No fare increase in FY 98

Chart 3

- The overall impact of these increases raises the net average fare 45% from $1.45 in FY 95 to $2.10 by FY 98.

Chart 4

- From an historical perspective from 1986 (the fare increase prior to that in April 1995), this is below CPI.

Chart 5

- $297.7 million cumulative deficit is forecast by FY 05 with no other increases.

1995 SRTP

NEW & REVISED ITEMS

AND ASSUMPTIONS

1995 SRTP . . . WHAT'S NEW?

- **Extensions**
- **Ridership**
- **Service Plan**
- **Financial Projections**

EXTENSIONS

- **New Service Start Dates**
- **Additional Station**

EXTENSION PLANS AND START DATES

Opening dates for extension stations as identified in the 1994 SRTP are shown in parentheses

- **NORTH CONCORD/MARTINEZ**
  Fall 1995 (vs July 1995)

- **COLMA**
  Winter 1995 (vs September 1995)

- **CASTRO VALLEY & EAST DUBLIN/PLEASANTON**
  Summer 1996 (vs December 1995)

- **PITTSBURG/BAYPOINT**
  Fall 1996 (vs July 1996)

- **SOUTH S.F., SAN BRUNO, S.F. AIRPORT, MILLBRAE**
  FY 2000 (vs December 1998 and with an Airport terminal and no Millbrae Station).

BAY AREA GROWTH

&

RIDERSHIP

POPULATION & EMPLOYMENT

Chart 6

- ABAG forecast indicates that population in the three BART counties will increase 1.0% per year from 3.02 million in 1995 to 3.33 million in 2005.

- Of the current three BART counties, Contra Costa is slated to grow the fastest at 1.6% annually, Alameda at 0.9%, and San Francisco at 0.5%

- San Mateo County's population is forecast to grow 0.6% annually, from 0.69 million in 1995 to 0.73 million in 2005.

Chart 7

- The employment forecast for the three BART counties shows jobs increasing faster than population, at 1.9% annually from 1.46 million in 1995 to 1.76 million in 2005 (due to demographic shifts and from growth in work commutes originating in other counties).

- Annual employment growth rates for the ten year period are: 2.8% for Contra Costa, 2.1% for Alameda, 1.5% for San Mateo, and 1.2% for San Francisco.

CORE SYSTEM RIDERSHIP

Chart 8

- The current ridership forecast builds upon a base of 248,300 average weekday trips for FY 95, including the effect of the 15.0% April 1995 fare increase.

- A weekday average of 240,400 trips budgeted for FY 96 reflects a full year of the April 1995 fare increase and three months of the April 1996 13.0% increase.

- Consistent with population and employment growth, core system ridership beyond the current budget year is assumed to grow at an annual rate of 1.25%.

- In FY 97, core system average weekday ridership is forecast to be 235,100 trips, with all three increases in the adopted fare package in effect, the last of which is 11.4% in April 1997.

- With no further increase in fares and at 1.25% annual growth, core system ridership is forecast to reach 257,600 weekday trips by FY 05.

RIDERSHIP FOR EXTENSIONS

Chart 9

- Extension plans and station opening dates have changed since the 1994 SRTP (see page 10). The following forecast includes the revised opening dates, and a station in Millbrae which was not included in the 1994 SRTP.

- At the adopted fare levels, extensions are forecast to add an average of 103,100 weekday trips by FY 05.

- The first full year of Colma is forecast to add 12,900 weekday trips in FY 97. By FY 01, a full year of service on the S.F. Airport extension to Millbrae is forecast to add 65,000 weekday trips.

- In FY 97, the addition of North Concord/Martinez, Pittsburg/Baypoint, Castro Valley, and East Dublin/Pleasanton stations is forecast to generate 25,100 new weekday trips. The two East Bay extensions are forecast to grow to 38,100 weekday trips by FY 05.

SYSTEMWIDE RIDERSHIP

Chart 10

- Including the impact of the 1995 adopted fare package and extensions, systemwide ridership is forecast to grow 4.3% annually from 247,700 weekday trips in FY 96 to 360,700 trips in FY 05.

- Of the 360,700 average weekday trips forecast for FY 05, 257,600 trips (71%) are for the core system with the remaining 103,100 (29%) being new trips due to extensions in both the East Bay and West Bay.

SERVICE ASSUMPTIONS

&

OPERATING PLAN

SERVICE PLAN KEY ASSUMPTIONS

- Service plans assume extension start dates noted above (see page 10).

- The current minimum allowable scheduled headway of 2.25 minutes is assumed to be in effect through December 1999. After this time, a 2.00 minute minimum scheduled headway is assumed.

- Service plans consider cars rotated out of service for rehabilitation. All A- and B-cars are assumed to be rehabilitated by May 2002.

Chart 11

- By the end of FY 02, it is assumed that the District will have 714 revenue vehicles: 36 A-cars, 402 B-cars which include 98 converted A-cars, 150 C1-cars, 80 C2-cars from the current Morrison-Knudsen order, and 46 C3-cars which are assumed to be part of the West Bay Extension project budget.

CAR REQUIREMENT ASSUMPTIONS

- Strive to maintain current peak period load factors.
- Preserve modular train sizing and captive fleet program.
- Operate symmetrical route merging through the Oakland wye.
- Operate minimum 15-minute base weekday route headways.
- Provide service south of Daly City on the Concord and Richmond lines.
- Terminate Fremont and East Dublin transbay service at Daly City.
- Provide for car maintenance per the *Fleet Management Plan*.
- Allocate 8 cars for yard logistics (2 per yard).
- Beginning in FY 97, allocate 50 ready reserve cars when possible.
- Use ready reserve cars for service when necessary under deficit conditions.

SERVICE PLAN HIGHLIGHTS

- In response to rising demand and to mitigate against increasing load factors, peak period service on all routes will be changed from the current 15-minute headway to 12 minutes (i.e., from 4 to 5 trains per hour per route) to maintain required scheduling symmetry. Midday route headways remain at 15 minutes.

- Peak hour transbay trains will increase from 17 currently to 25 in FY 00 (at 2.0 minute scheduled headways), leaving 5 *slots* available for future needs.

Chart 12

- Accordingly, ridership growth on the core system and extensions will require an increase in the number of peak period trains from 43 today to 73 by FY 00, and will remain at 73 through FY 05.

Chart 13

- Car shortages appear in FY 00 when service to S.F. Airport begins and when the car rehab program requires 36 vehicles be rotated out of the fleet.

- Car shortages are 13 and 22 in FYs 00 and 01, respectively (during rehab). When rehab is complete by the end of FY 02, a surplus of 7 cars is forecast. Ridership growth over the next three years results in a shortage of 9 cars in FY 05. All car shortages are assumed to be *made up* from ready reserves.

EXPRESS BUS & ADA ASSUMPTIONS

- Portions of express bus routes which run parallel to rail extensions are assumed to be eliminated (i.e., in the I-580 and SR-4 corridors).

- Express bus service will be coordinated with new rail service at North Concord/Martinez and Pittsburg/Baypoint stations in central Contra Costa County, and East Dublin/Pleasanton station in Alameda County.

- ADA paratransit service is per the *Coordinated Paratransit Plan* (East Bay Consortium, January 1995).

FINANCIAL ASSUMPTIONS

ADJUSTMENTS & RESULTS

- **Revenue**
- **Expense**
- **Assistance**
- **Allocations**

REVENUE

- **Passenger Fares**
- **Non-Fare Revenue**

Chart 14

REVENUE ASSUMPTIONS & ADJUSTMENTS

- The net average rail fare is assumed to grow per the January 1995 adopted fare package (see page 6).
- Revenue is based on forecast origin/destination travel data, which includes longer trips due to extensions.
- The net average fare in this presentation includes the application of surcharges at all stations south of Daly City except at San Francisco Airport Station.
- Rail revenue is net of San Mateo County surcharges which are assumed to be returned to SamTrans per the adopted comprehensive agreement. San Mateo surcharges do not include surcharges collected at Daly City Station.
- Consistent with negotiations with San Francisco MUNI, an adjustment to FastPass revenue is included. This adds $0.7 million in FY 97, $1.6 million in FY 98, and grows at the rate of fare increases in subsequent years.
- Non-fare revenue is assumed to grow at CPI with an adjustment for new joint development revenue starting out at $0.3 million in FY 97 and increasing to $1.0 million by FY 00.

EXPENSE

- **CPI**
- **Labor**
- **Non-Labor**

KEY EXPENSE ASSUMPTIONS

- CPI is forecast to be 3.0% in FY 96 and 3.5% for all other years.

Charts 15 & 16

- The growth rate for labor expense is 2.4% in FY 97 per current contracts, and at CPI for remaining fiscal years.

- All non-labor expense items are assumed to grow in proportion to new service increases and CPI.

- One-time and/or repetitive adjustments to the labor and non-labor expense are summarized on pages 26 and 27, respectively.

LABOR EXPENSE ADJUSTMENTS

- **COLMA CREDIT**: Ends in FY 96, adds $0.98m in FY 97 and grows at CPI.
- **HOLIDAY BUY-BACK**: Recommences in FY 97 and adds $.90m.
- **PERS**: Resumption of payments in FY 98, adds $14.5m, then grows at CPI.
- **PAY PROGRESSION**: Savings peak in FY 99 at $3.13m, then declines each year to a $1.88m in FY 05.
- **OTHER LABOR CONTRACTS**: Savings of $0.57m in FY 97 and $1.15m in FY 98, then grows at CPI.
- **MANAGEMENT REDUCTION**: Full year of 39-head reduction in FY 97 saves $1.61m, then grows at CPI.
- **VACANCY RATE**: Increase from 55 heads in FY 96 to 100 heads in FY 97 saving $1.24m, then grows at CPI. Starting in FY 01 (first full year all extension stations are open), decrease rate by 25 heads each year adding $1.87m in FY 01. By FY 03, the vacancy rate is held to 25 positions and adds $6.02m, then grows at CPI.

NON-LABOR ADJUSTMENTS

Chart 15

- **COLMA CREDIT**: Ends in FY 96, adds $0.26m to FY 97's power expense. This expense is carried forward and grows at CPI.

- **POWER RATES**: Expected favorable adjustment results in $0.44m savings in FY 97, split 85% for the core and 15% for extensions. This savings is carried forward and grows at CPI.

- **FACILITY LIGHTING EFFICIENCIES**: Measures at four core system locations beginning in FY 97 result in an additional $0.44m savings (Hayward Yard, Embarcadero Station, Lake Merritt Station, and Lake Merritt Administration Building). This savings is carried forward and grows at CPI.

FINANCIAL ASSISTANCE

- **Sales & Property Tax**
- **STA & TDA**
- **San Mateo County**

FINANCIAL ASSISTANCE

Chart 17

- BART's estimate of sales tax assumes growth at 0.25% above CPI, or 3.75% annually (versus 1%-2% for population and employment). This compares to MTC's forecast of 6.18% annual growth, or 2.7% above CPI.

Chart 18

- Property tax is assumed to grow at 5.0% per year in all years except FY 97, which is assumed to be equal to FY 96 receipts.

- STA assistance is assumed to be a $0.5 million a year for ADA.

- TDA assistance is per MTC forecast which starts out at $0.8 million in FY 96 and between $0.3 and $0.5 million in subsequent years.

- San Mateo County provides $1.1 million in FY 96. Payments in subsequent years are assumed to be the same amounts identified in BART's 1994 SRTP, $1.9 million in FY 97 and increasing to $4.5 million in FY 04. A payment of $5.0 million has been assumed for FY 05. *[These amounts could change per revisions to the current agreement and/or service modifications.]*

- Operating budget receives a cost allocation plan reimbursement of $2.2 million in FY 96, which grows at CPI (see *Other Capital Allocations* on page 31).

DEBT SERVICE &

OTHER ALLOCATIONS

DEBT SERVICE & OTHER ALLOCATIONS

Chart 19

- Debt service includes approximately $20 million a year for the 1990 and 1991 C1-car revenue bonds.

- Debt service for four new issues of bonds are also included to support system rehabilitation. This expense ranges from $9.0 million in FY 96 to $39.7 million with all four issues in effect in FY 00. New bond debt service then remains at this level through FY 05.

- Other capital allocations include $2.2 million for the cost allocation plan in FY 96 (this is transparent to the operating budget since this expense is offset by an equal amount in financial assistance). This amount is assumed to grow at CPI in subsequent years.

FINANCIAL FORECAST
THREE SCENARIOS

1. **1995 Adopted Fare Package**
   No Additional Fare Increases & BART's Conservative Sales Tax Forecast

2. **Adopted Fares w/Add'l Out-Year Increases**
   And BART's Conservative Sales Tax Forecast

3. **Adopted Fares w/Revised Add'l Increases**
   And MTC's Aggressive Sales Tax Forecast

Scenario 1

1995 ADOPTED FARE PACKAGE

- **15.0% (4/1/95)**
- **75.0% discount (4/1/95)**
- **13.0% (4/1/96)**
- **11.4% (4/1/97)**
- **No increase in FY 98**

BART's CONSERVATIVE SALES TAX FORECAST

FINANCIAL FORECAST OVERVIEW
1995 ADOPTED FARE PACKAGE

BART's Conservative Sales Tax Forecast

Chart 20

- The impact of efficiency measures, fare increases, and extensions results in raising the system operating ratio from 53% in FY 95 to 62% in FY 98, when all of the adopted fare increases are in effect. With no further increases, the operating ratio declines in all subsequent years to 54% in FY 05.

Chart 21

- Rail cost per passenger mile increases 1.1% annually from 23.2¢ in FY 95 to 26.0¢ in FY 05. Adjusting for 3.5% annual inflation, rail cost per passenger mile decreases 2.1% per year to 18.8¢ in FY 05.

Chart 22

- With no further fare increases beyond the 1995 fare package for fiscal years FY 99 through FY 05, BART's cumulative operating deficit grows from $12.2 million in FY 99 to $297.7 million by FY 05.

Scenario 2

ADOPTED FARES

WITH

ADDITIONAL INCREASES

BART's CONSERVATIVE SALES TAX FORECAST

FINANCIAL FORECAST OVERVIEW
ADOPTED FARES & ADDITIONAL INCREASES

BART's Conservative Sales Tax Forecast

Charts 23 & 24

- Solving for budget balances at or near zero, results in the following additional fare increases required from FY 99 through FY 05:

FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
8.0%	7.0%	4.0%	2.5%	2.0%	1.8%	1.5%

RIDERSHIP IMPACT OF ADOPTED FARES & ADDITIONAL INCREASES

BART's Conservative Sales Tax Forecast

- The fare increases needed to balance the operating budget for five of the seven fiscal years from FY 99 through FY 05, are near or below CPI and translate to high demand retention.

Charts 25

- Because of this, the cumulative effect of the additional increases by FY 05 results in a loss of only 4,200 weekday trips, or 1.2% on a base of 360,700.

- The following compares FY 05 average weekday ridership for the core system and extensions under the adopted fares and adopted/additional fare increases:

	Adopted Fares	w/Additional Increases	Difference
Core System	257,600	254,600	(3,000)
Extensions	103,100	101,900	(1,200)
System Total	360,700	356,500	(4,200)

FINANCIAL PERFORMANCE
ADOPTED FARES & ADDITIONAL INCREASES

BART's Conservative Sales Tax Forecast

- With no significant new sources of financial assistance (i.e., the District's sales tax base will be no greater than it is currently), a higher operating ratio than today's 53% will be required to support system rehab, ADA, and new service.

Chart 26

- With additional out-year fare increases, BART is forecast to achieve a 65% operating ratio in FY 99 and 70% between FY 00 and FY 05.

- Due to slightly lower ridership with the additional fare increases, rail cost per passenger mile is slightly higher: 26.6¢ in FY 05 with the out-year increases versus 26.3¢ without these increases.

Scenario 3

ADOPTED FARES

WITH REVISED

ADDITIONAL INCREASES

MTC's AGGRESSIVE SALES TAX FORECAST

FINANCIAL FORECAST OVERVIEW
ADOPTED FARES & REVISED ADD'L INCREASES

MTC's Aggressive Sales Tax Forecast

- For regional planning purposes, MTC requires a financial statement from all Bay Area transit operators using its projections of financial assistance.

- As stated above and shown on Chart 17, MTC's forecast of BART sales tax revenue assumes 6.18% annual growth versus BART's forecast of 3.75%.

Chart 27

- Under MTC's higher forecast of sales tax, BART would accumulate $178.9 million in additional operating funds over the ten year period, capping out at $41.4 million in FY 05 alone.

- Fare increases required to balance the operating budget are as follows:

FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
3.1%	3.1%	3.1%	0.0%	0.0%	0.0%	0.0%

FINANCIAL PERFORMANCE
ADOPTED FARES & REVISED ADD'L INCREASES

MTC's Aggressive Sales Tax Forecast

- Because sales tax revenue, under MTC's aggressive growth, covers a greater portion of projected operating deficits, a lower contribution from fares is required than under BART's more conservative forecast of sales tax.

Charts 28 & 29

- Accordingly, the operating ratio is less for this scenario, topping out at 66% in FY 01 and reducing to 59% by FY 05.

- Minimal changes to ridership result in little if any change to BART's rail cost per passenger mile.

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1995 SHORT RANGE TRANSIT PLAN

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CHARTS

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Chart 1

1994 SRTP BASE DEFICITS
At Pre-April 1995 Fares

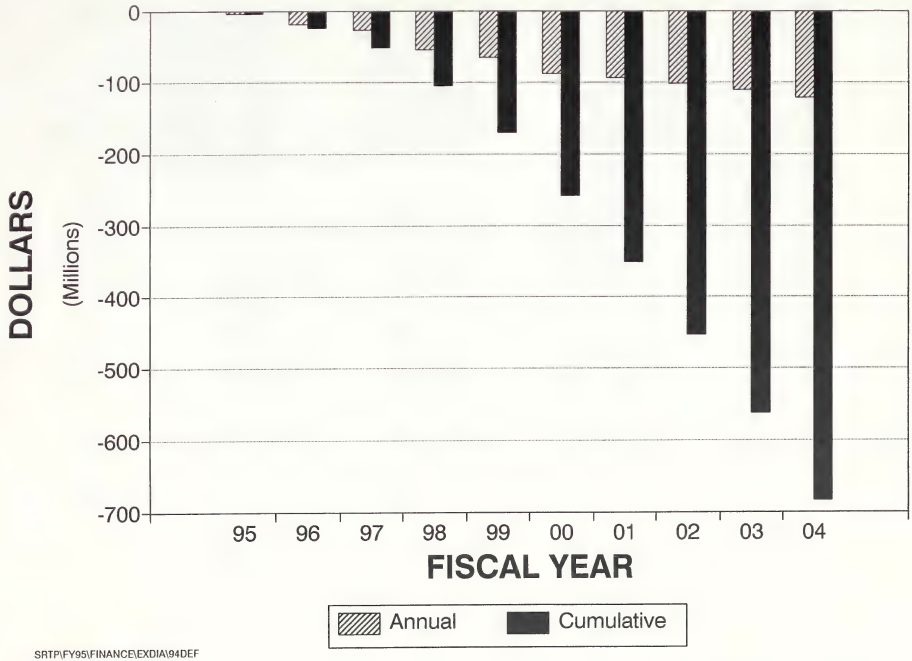

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Chart 2

1995 ADOPTED FARE PACKAGE

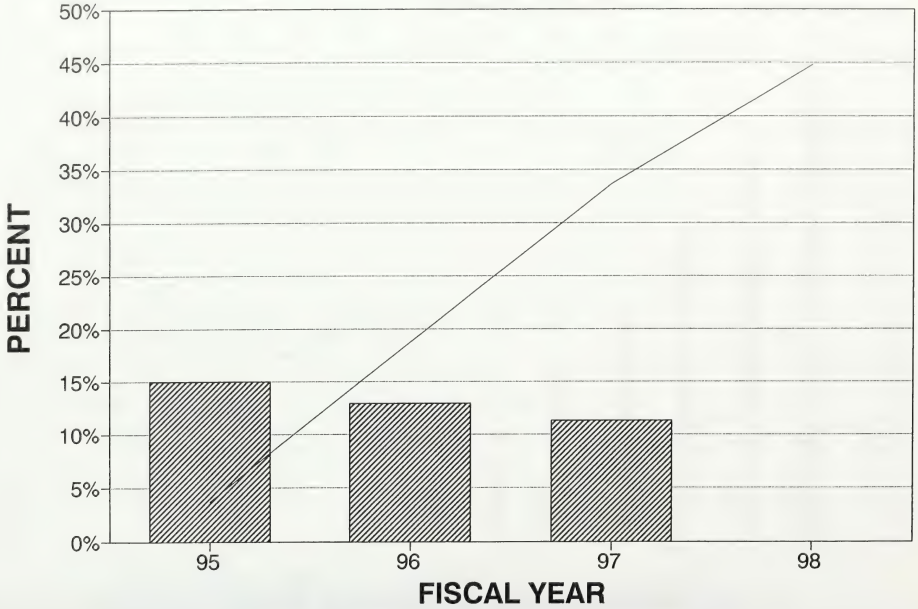

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Chart 3

NET AVERAGE RAIL FARE

At Adopted Fares and with Extensions

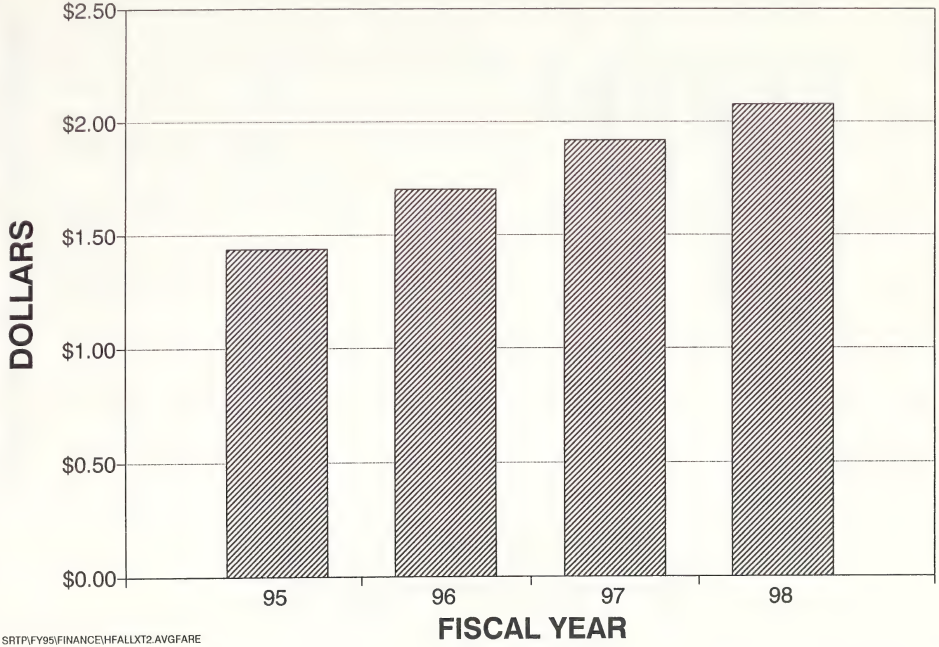

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Chart 4

NET AVERAGE FARE vs CPI
At Adopted Fares and with Extensions

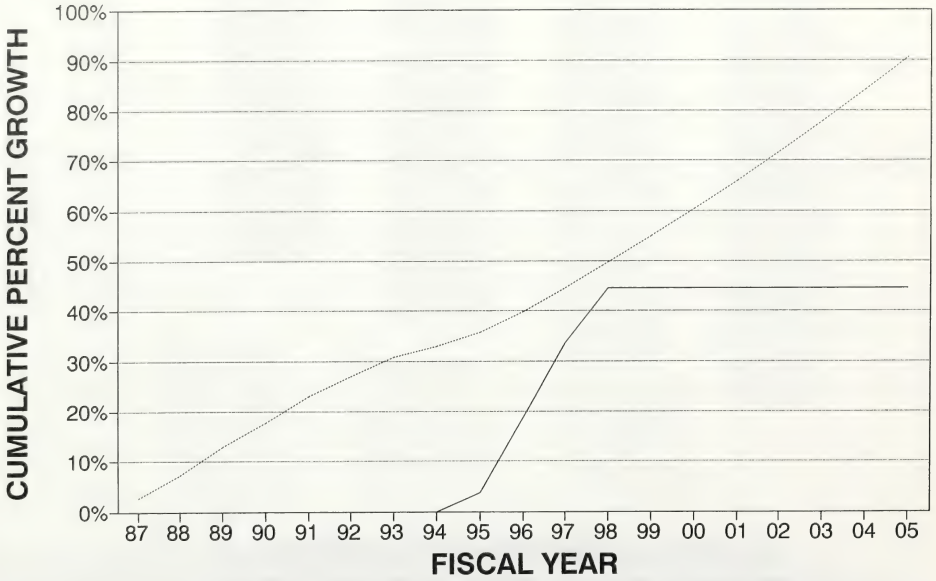

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Chart 5

SYSTEM FINANCIAL RESULT
At Adopted Fares and With Extensions

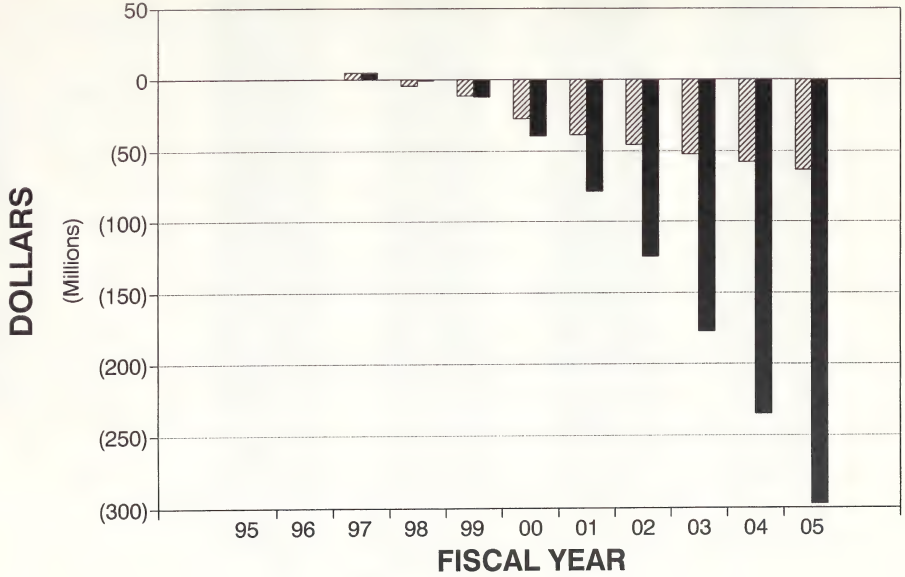

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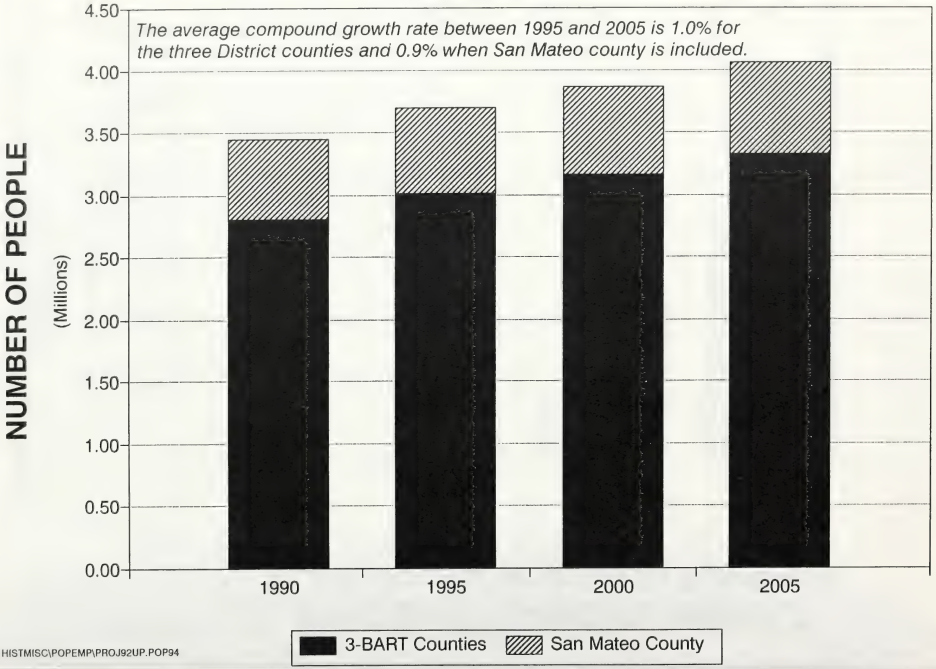
Chart 6

POPULATION FORECAST

Three District Counties & San Mateo



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EMPLOYMENT FORECAST
Three District Counties & San Mateo

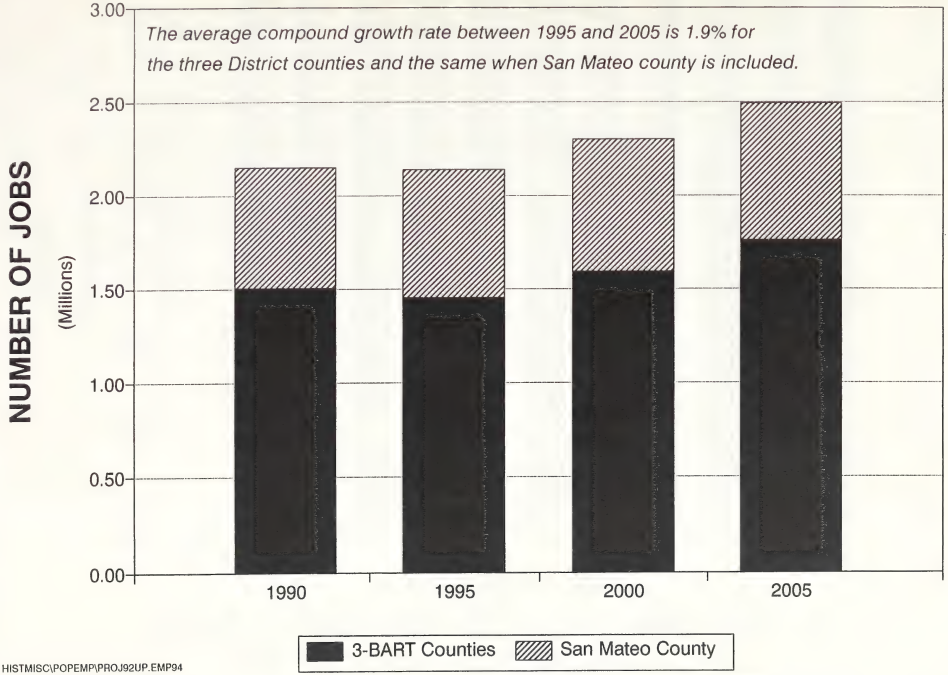

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Chart 8

CORE SYSTEM WEEKDAY RIDERSHIP
At Adopted Fares

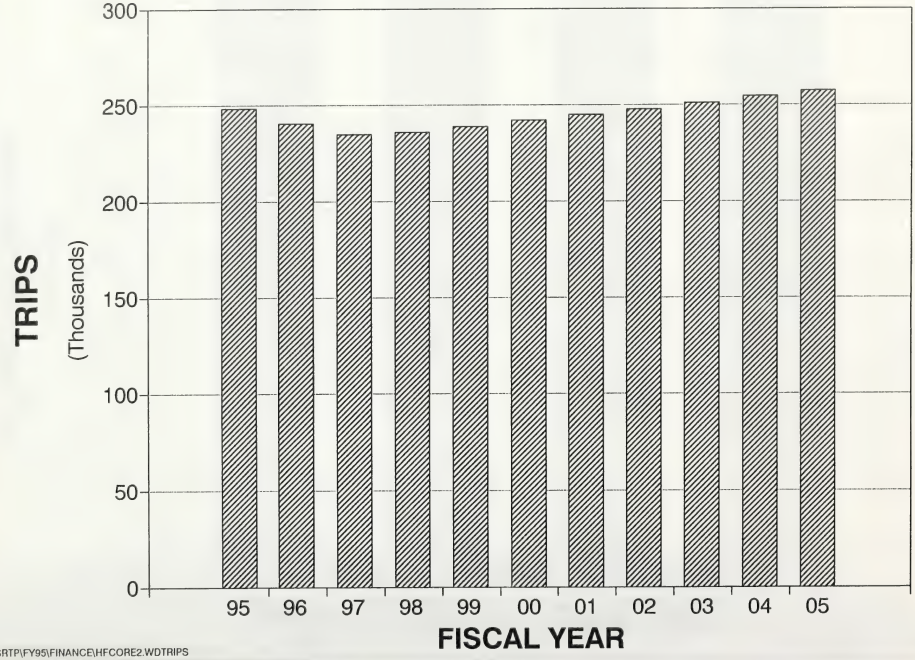

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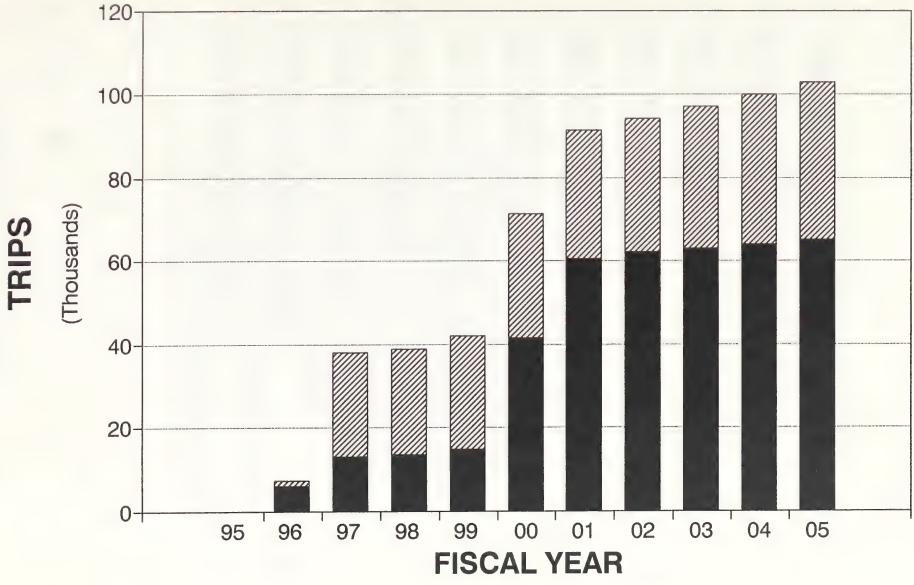
Chart 9

EXTENSIONS WEEKDAY RIDERSHIP
At Adopted Fares



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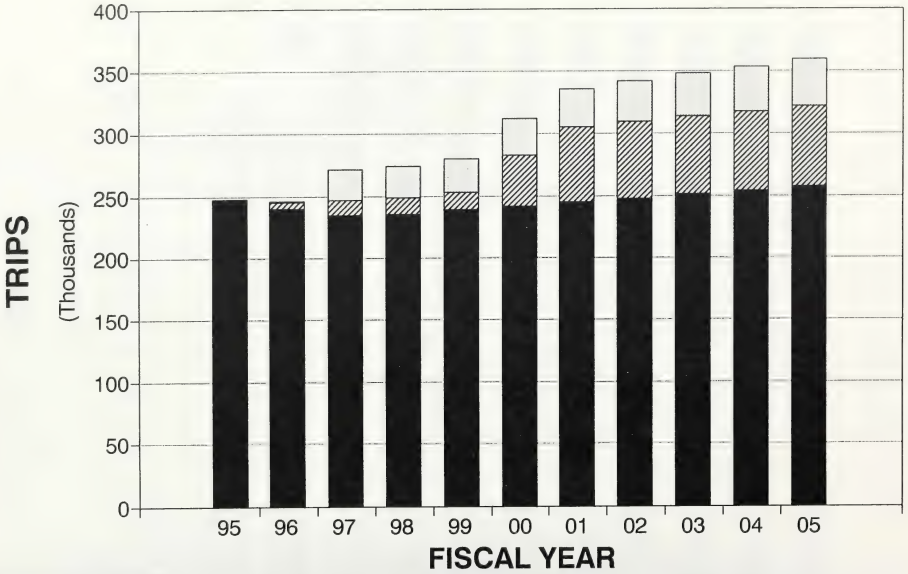
SYSTEM WEEKDAY RIDERSHIP
At Adopted Fares and With Extensions



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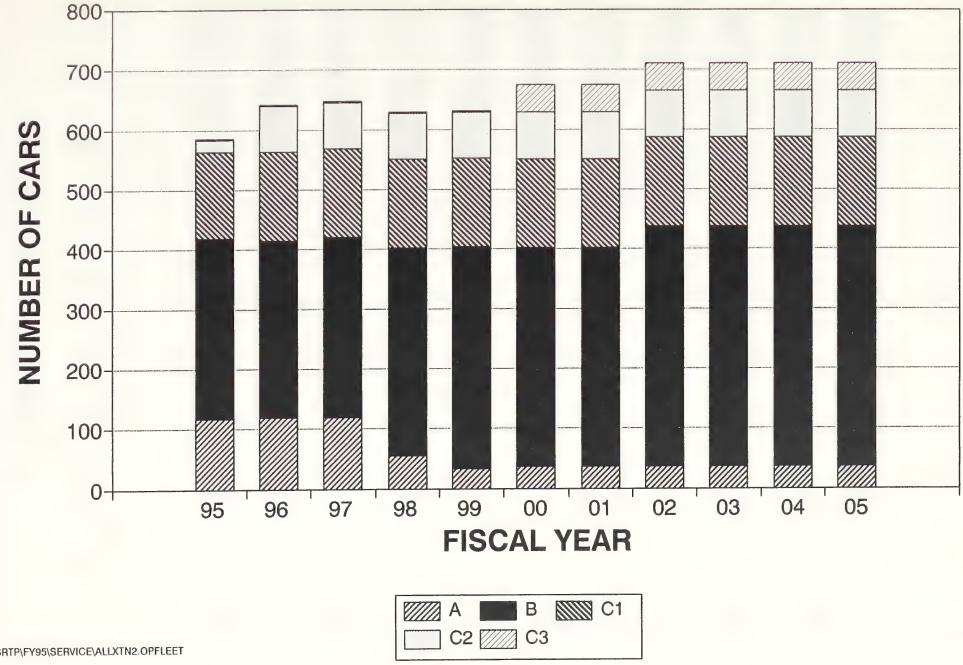
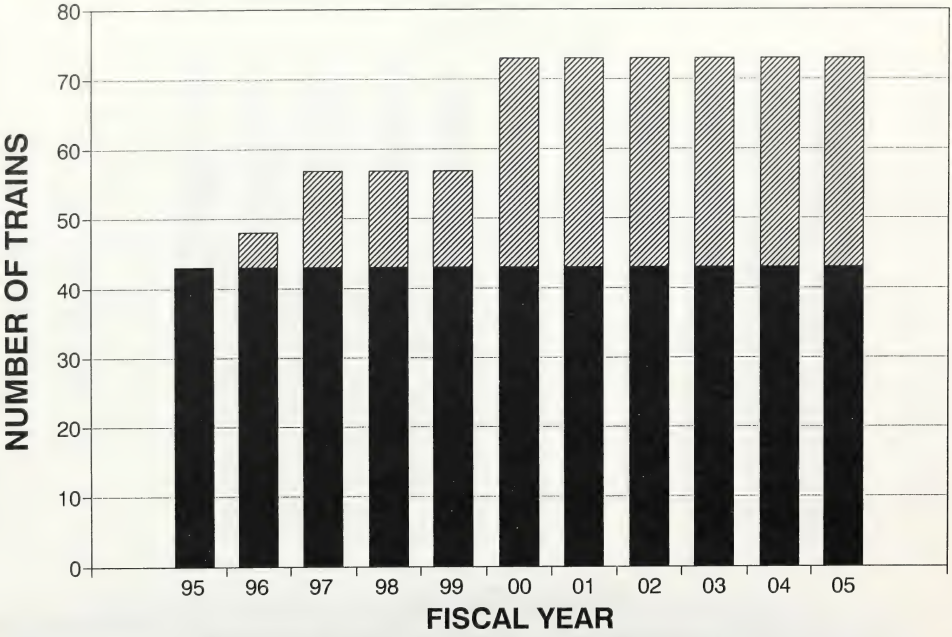
OPERATING FLEET INVENTORY
By Car Type



SRTP\FY95\SERVICE\ALLXTN2.OPFLEET

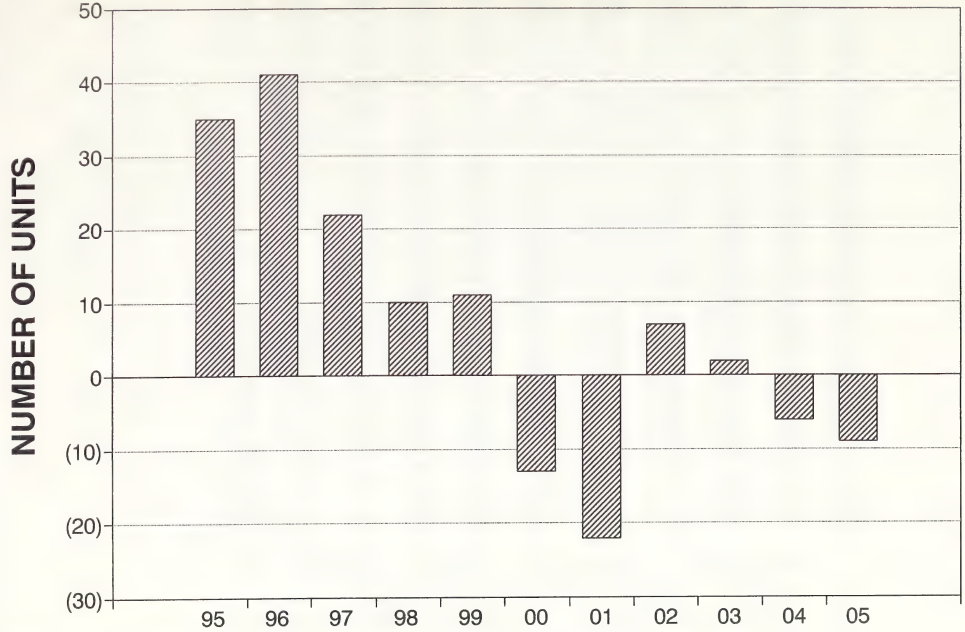
Chart 12

SYSTEMWIDE PEAK TRAINS ON LINE



SRTP\FY95\FINANCE\HFALLXT2.TRAINSOL

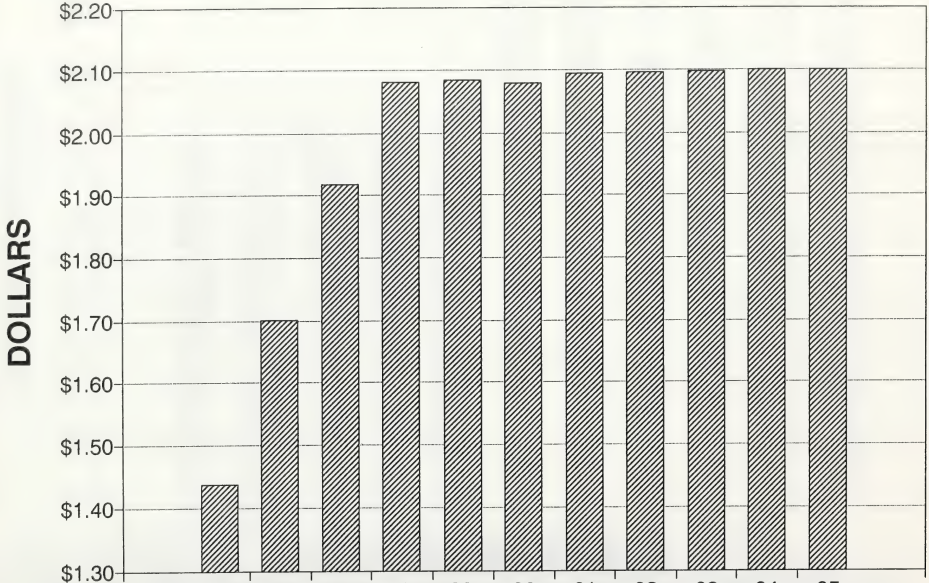
OPERATING FLEET vs PEAK SYSTEM CAR REQUIREMENT



SRTP\FY95\FINANCE\HFALLXT2.CARDEF

NET AVERAGE RAIL FARE

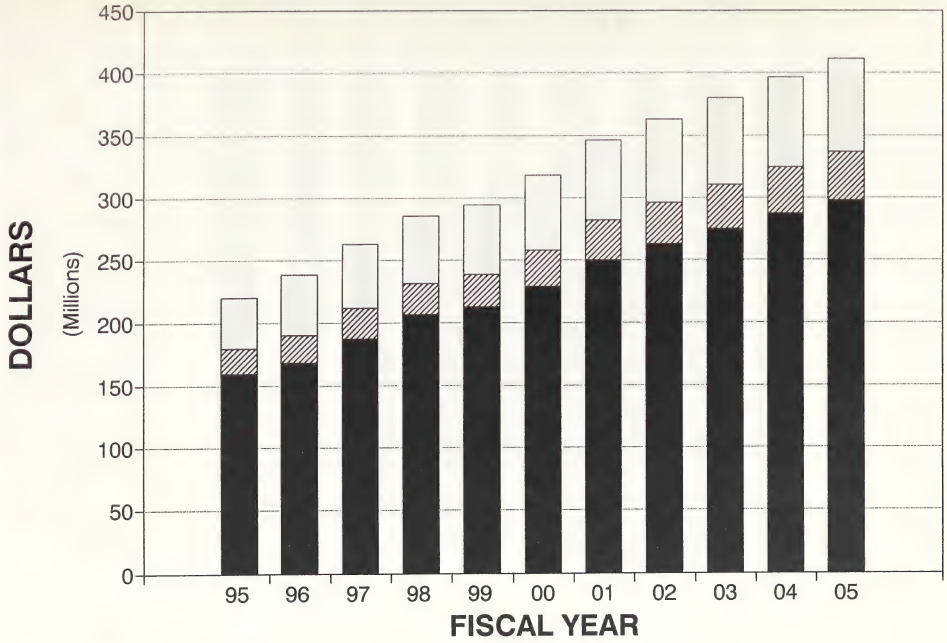
At Adopted Fares and with Extensions



SRTP\FY95\FINANCE\HFALLXT2.AVGFARE2

Chart 15

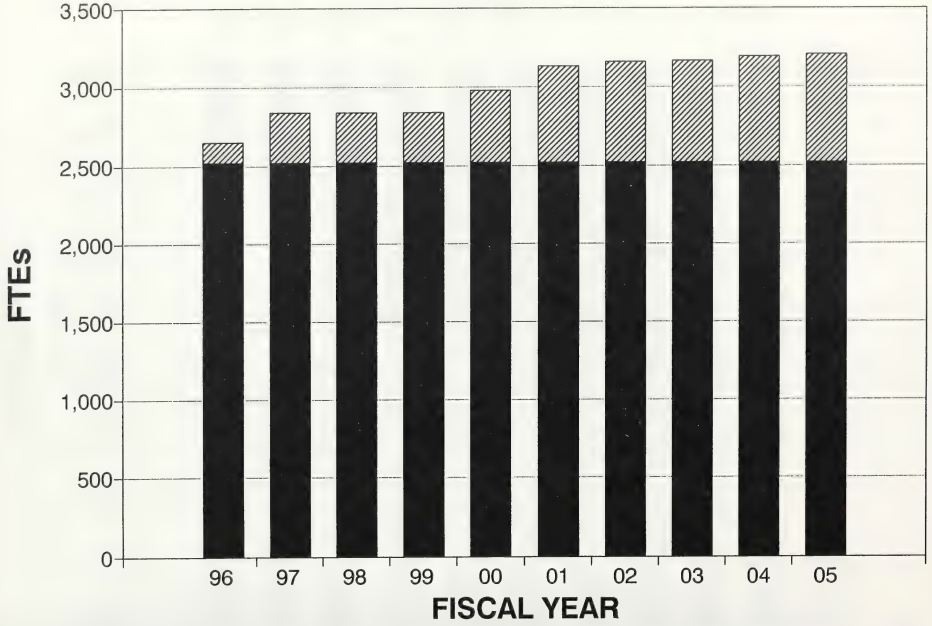
TOTAL OPERATING EXPENSE



SRTP\FY95\FINANCE\HFALLXT2.OPEXPNS

Chart 16

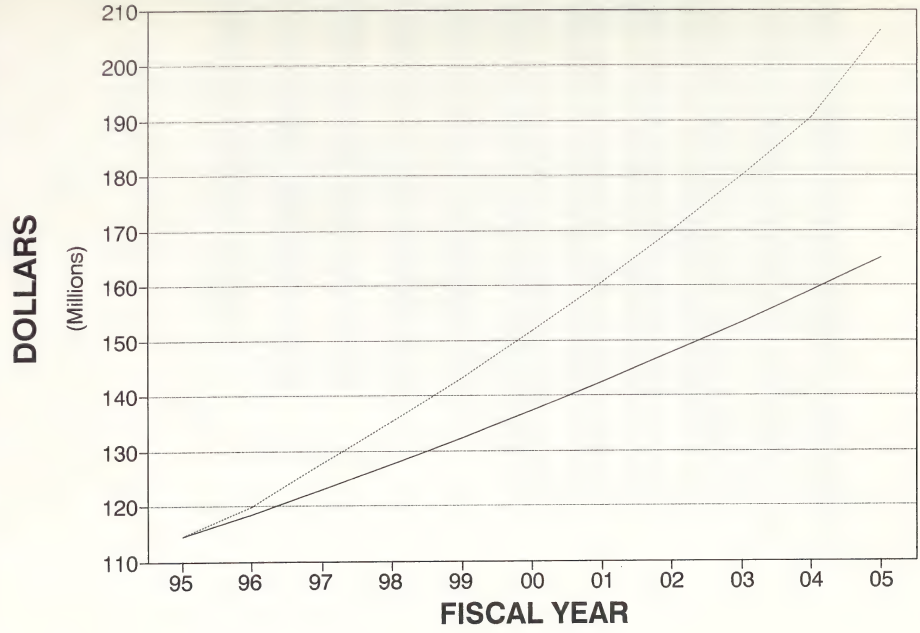
TOTAL DISTRICT OPERATING STAFF



SRTP\FY95\FINANCE\HFALLXT2.TOTSTAFF

Chart 17

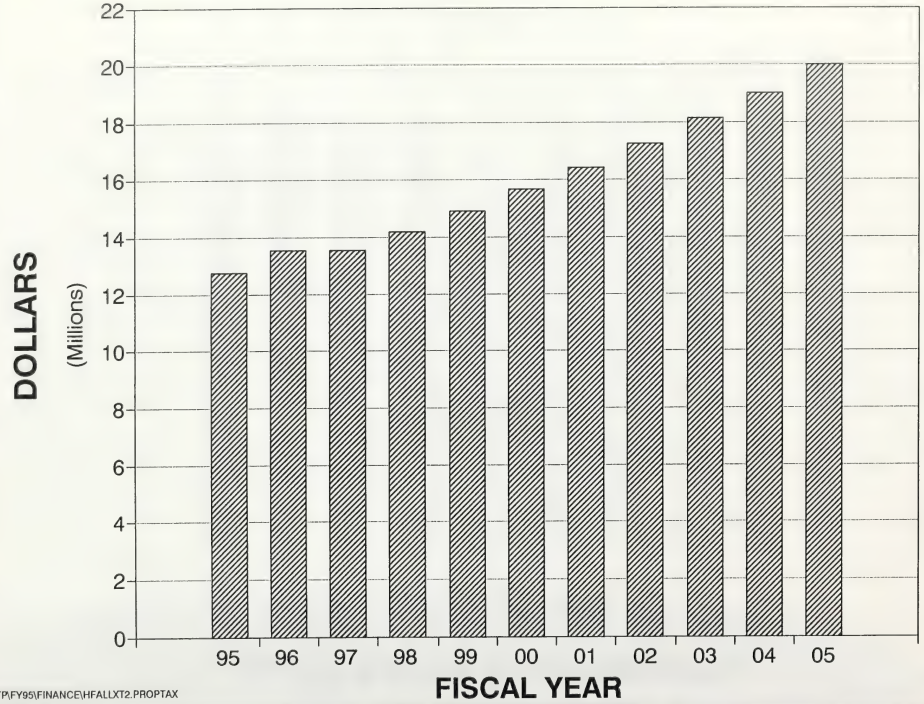
BART SALES TAX GROWTH



SRTP\FY95\FINANCE\HFALLXT2.STAX

Chart 18

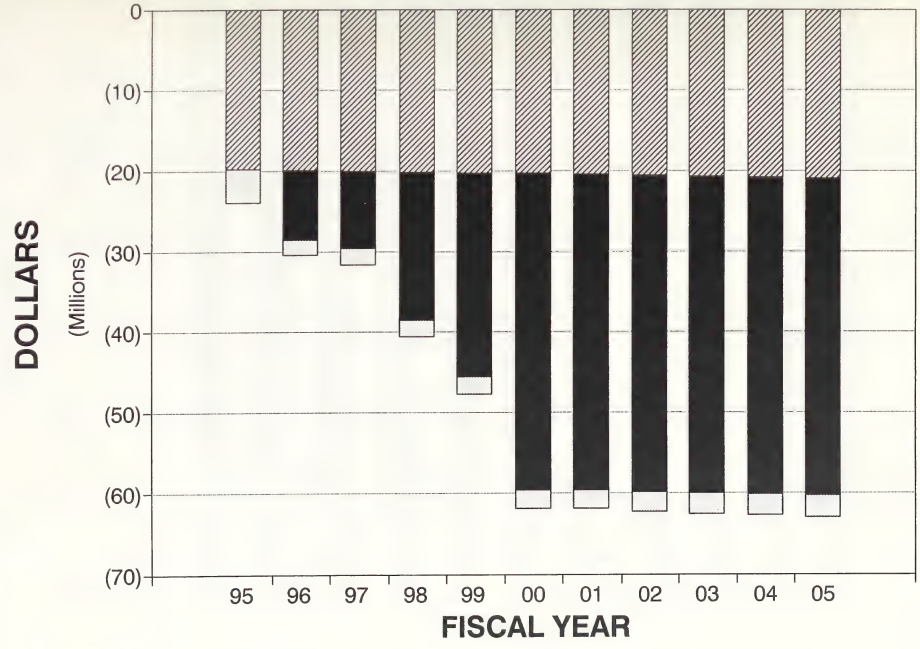
BART PROPERTY TAX GROWTH



SRTP\FY95\FINANCE\HFALLXT2.PROPTAX

Chart 19

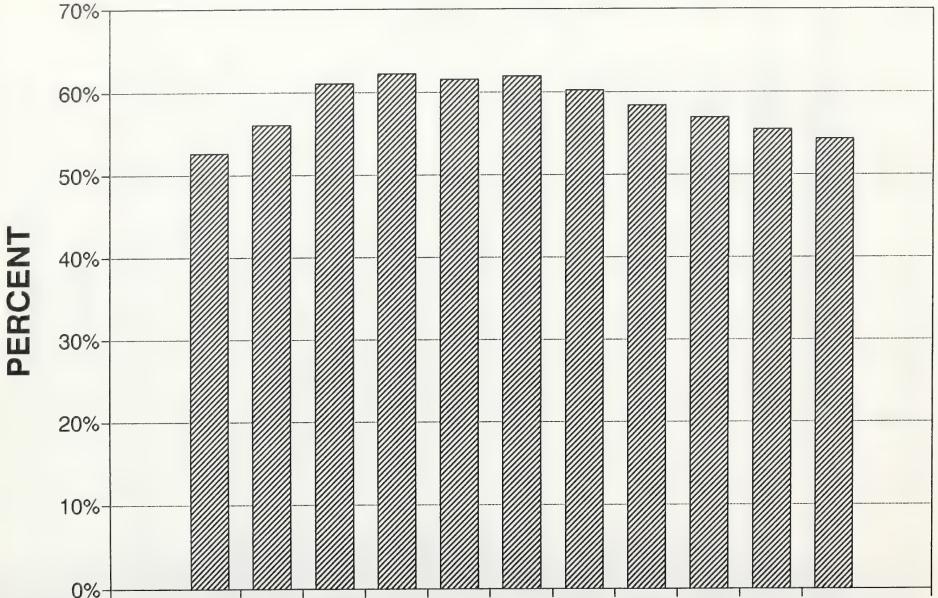
ALLOCATIONS & DEBT SERVICE



SRTP\FY95\FINANCE\HFALLXT2.ALLOBLIG

Chart 20

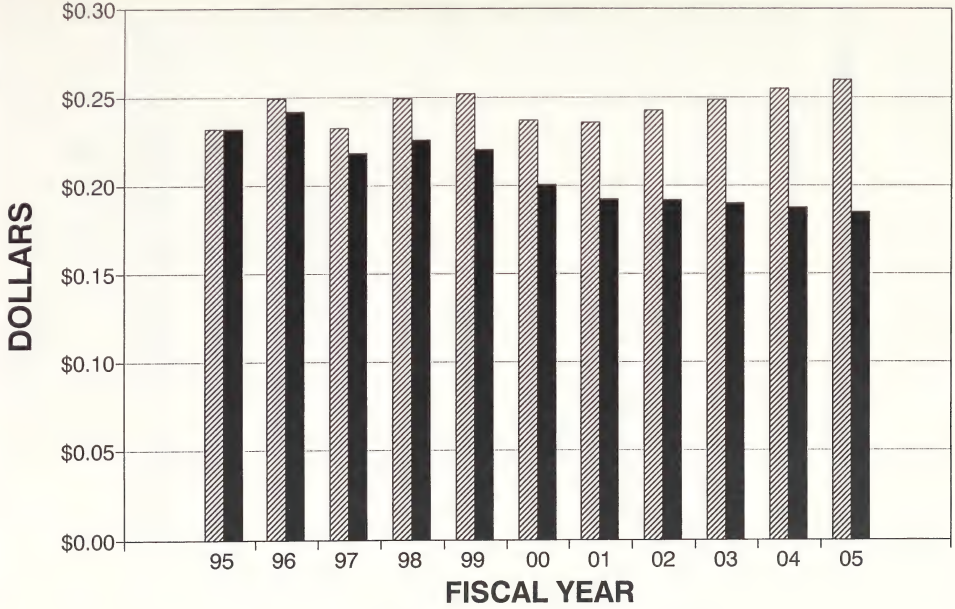
SYSTEM OPERATING RATIO
At Adopted Fares



SRTP\FY95\FINANCE\HFALLXT2.OPRAT

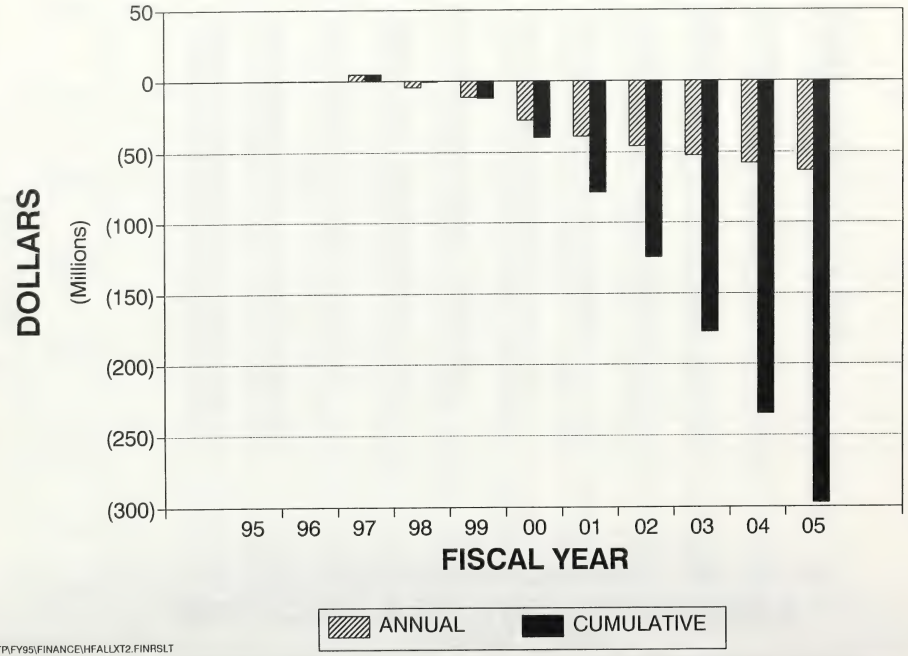
Chart 21

RAIL COST PER PASSENGER MILE
At Adopted Fares



SRTP\FY95\FINANCE\HFALLXT2.RAILCOST

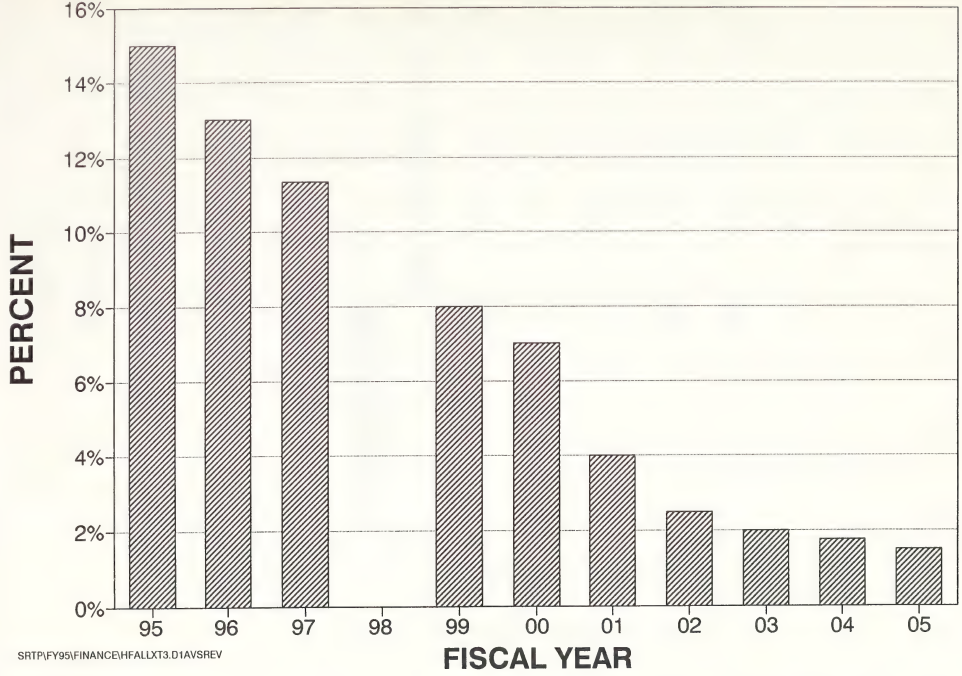
SYSTEM FINANCIAL RESULT
At Adopted Fares



SRTP\FY95\FINANCE\HFALLXT2.FINRSLT

Chart 23

ADOPTED & ADDITIONAL FARE INCREASES
With BART Forecast of Sales Tax



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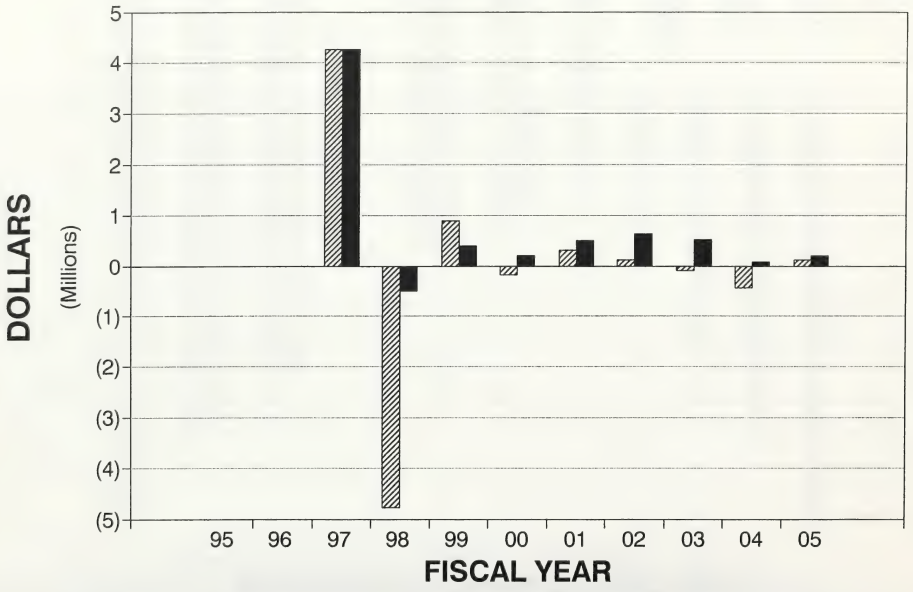
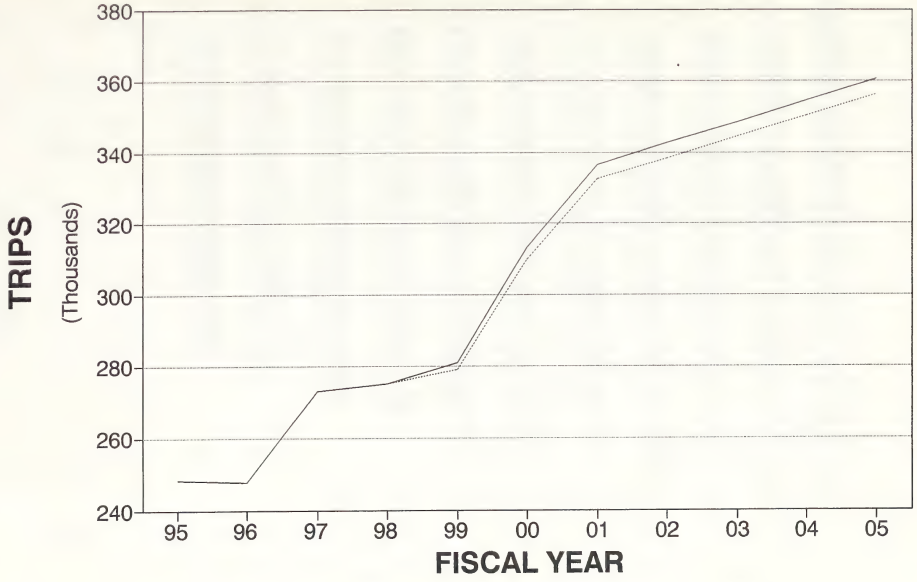
FINANCIAL RESULT

Adopted/Addit'l Fares & BART Sales Tax Forecast



SRTP\FY95\FINANCE\HFALLXT3.FINRSLT

AVERAGE WEEKDAY RIDERSHIP
Adopted Fares vs Adopted/Additional



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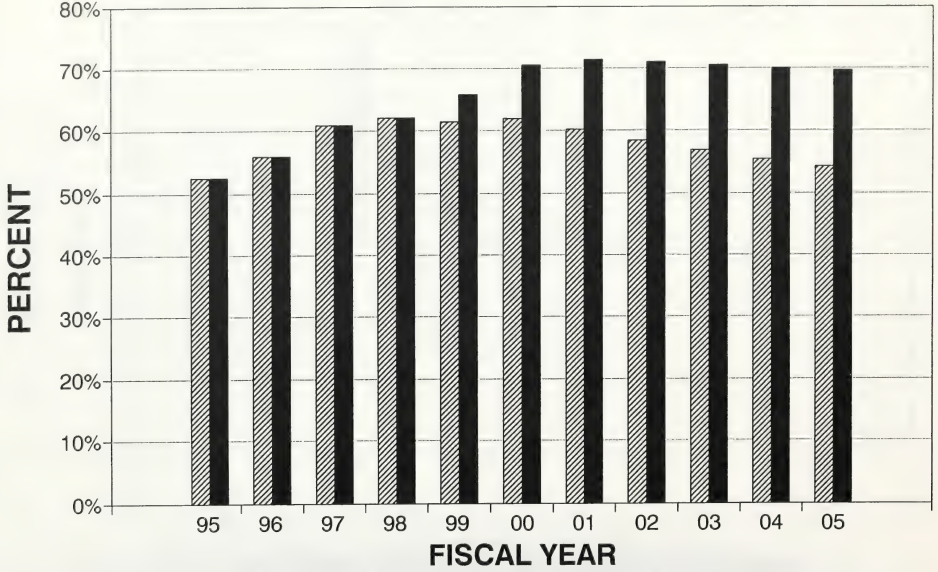
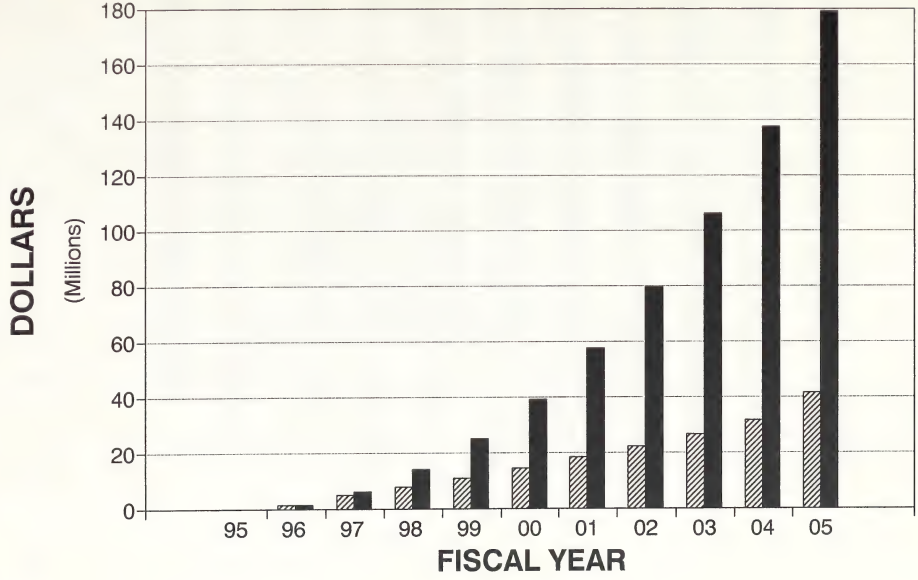
SYSTEM OPERATING RATIO
Adopted and Additional Fare Increases



SRTP\FY95\FINANCE\HFALLXT3.OPRAT

Chart 27

ADDITIONAL SALES TAX REVENUE
Using MTC's Forecast of 6.2% Growth

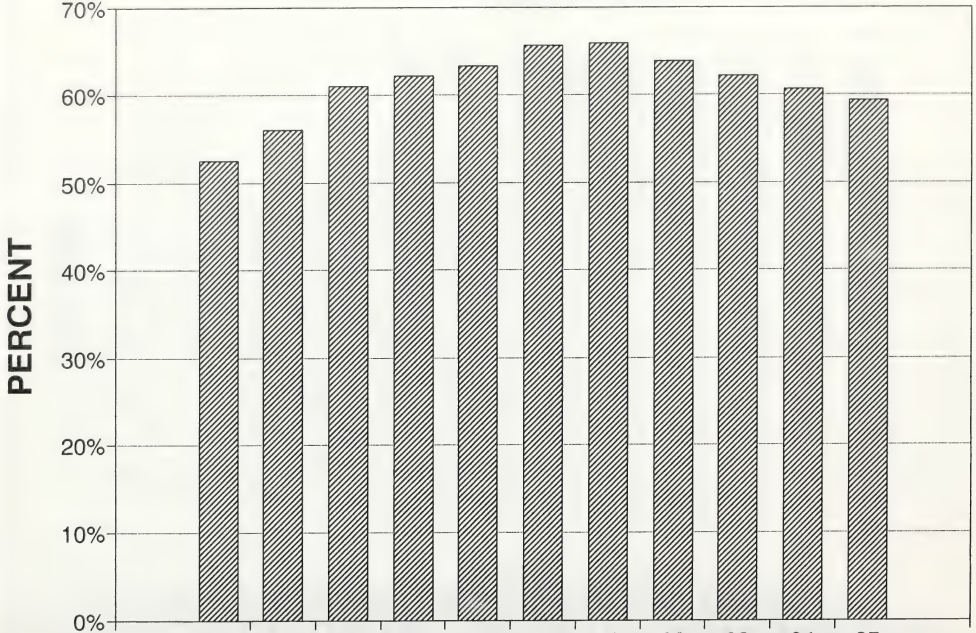


SRTP\FY95\FINANCE\HFALLXT2.MTCTAXAD

Chart 28

OPERATING RATIO WITH MTC SALES TAX

Adopted Fares & Revised Add'l Increases



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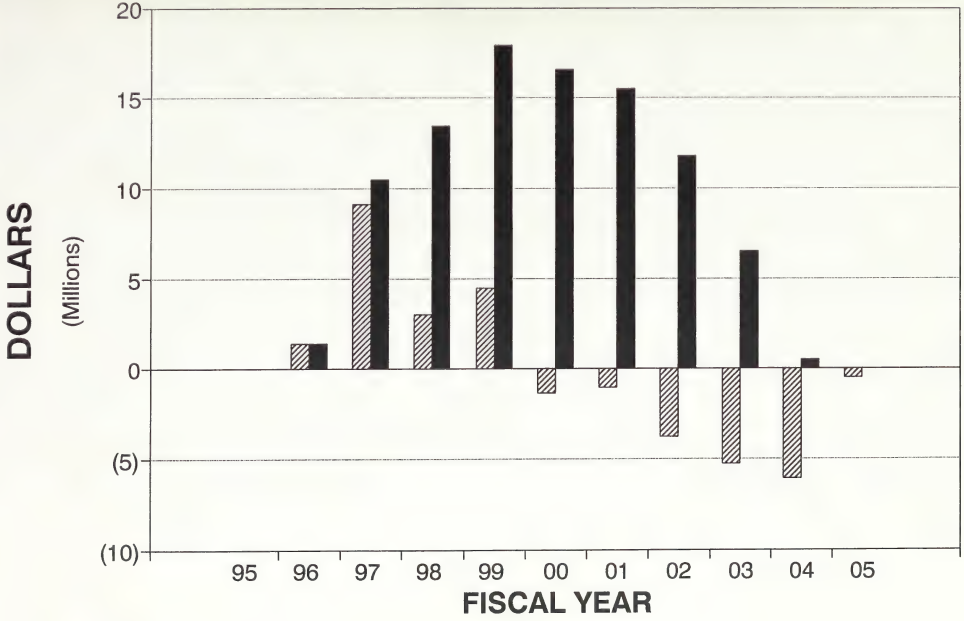
FINANCIAL RESULT WITH MTC SALES TAX

Adopted Fares & Revised Add'l Increases



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1995 SHORT RANGE TRANSIT PLAN

SUPPLEMENTARY

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1995 SRTP FINANCIAL FORECAST

1995 SHORT RANGE TRANSIT PLAN
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FYs 95-98 ADOPTED FARES

CORE+ADA+EXTENSIONS

	FY 95 EST/ACT	FY 96 BUDGET	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
REVENUE											
Net Rail Passenger Revenue	103,590,500	122,020,000	152,646,180	167,712,789	171,483,340	190,629,762	206,202,844	209,921,730	213,702,045	217,543,944	221,302,133
San Mateo County Surcharge Revenue	0	0	(4,741,572)	(3,772,990)	(4,133,042)	(8,164,352)	(11,934,036)	(12,296,582)	(12,647,158)	(13,138,686)	(13,207,532)
Net Express Bus Passenger Revenue	1,429,300	1,214,300	883,479	955,864	960,644	965,447	970,274	975,125	980,001	984,901	989,826
ADA Service Passenger Revenue	0	119,800	278,716	639,774	647,771	655,868	664,067	672,368	680,772	689,282	697,898
Total Net Passenger Revenue	105,019,800	123,354,100	149,066,803	165,535,438	168,958,713	184,086,725	195,903,150	199,272,641	202,715,660	206,079,441	209,782,325
Interest Revenue	7,121,100	7,190,200	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000
Other Operating Revenue	4,087,500	3,986,800	4,376,338	4,920,760	5,270,236	5,524,945	5,685,068	5,850,795	6,022,323	6,199,854	6,383,599
Subtotal Non-Fare Revenue	11,208,600	11,177,000	12,176,338	12,720,760	13,070,236	13,324,945	13,485,068	13,650,795	13,822,323	13,999,854	14,183,599
Total Operating Revenue	116,228,400	134,531,100	161,243,141	178,256,198	182,028,949	197,411,670	209,388,217	212,923,436	216,537,983	220,079,296	223,965,924
EXPENSE											
Net Labor	159,226,100	168,483,000	189,067,498	193,504,050	200,099,025	216,588,729	237,621,754	249,904,311	261,604,257	272,923,672	283,883,710
Express Bus Service	7,089,900	6,934,000	4,557,529	4,718,065	4,883,280	5,053,769	5,230,195	5,411,204	5,603,864	5,800,026	5,999,581
Shuttle Service	85,000	95,300	98,621	102,095	105,670	109,359	113,177	117,093	121,262	125,535	129,825
Purchased Transportation	1,561,600	1,654,400	1,712,048	1,772,354	1,834,417	1,898,462	1,964,737	2,032,733	2,105,107	2,176,795	2,253,758
ADA Service	1,477,600	2,520,700	4,739,871	5,896,809	6,103,197	6,316,809	6,537,898	6,766,724	7,003,559	7,248,684	7,502,388
Power, Traction & Station	20,121,500	21,863,800	25,173,806	26,074,349	27,094,172	29,811,490	32,986,036	34,405,882	35,705,651	37,459,240	38,957,620
Other Non-Labor	31,569,900	38,560,600	40,963,789	42,432,168	44,175,746	47,948,367	51,501,317	53,555,546	55,556,974	57,816,075	60,087,762
PERS	0	0	0	14,500,000	15,007,500	15,532,763	16,076,409	16,639,084	17,221,451	17,824,202	18,448,049
Total Operating Expense	221,131,600	240,111,800	266,313,162	288,999,890	299,303,007	323,259,748	352,031,522	368,832,577	384,922,126	401,376,230	417,262,693
OPERATING DEFICIT	(104,903,200)	(105,580,700)	(105,070,021)	(110,743,692)	(117,274,058)	(125,848,079)	(142,643,304)	(155,909,141)	(168,384,143)	(181,296,934)	(193,296,769)
FINANCIAL ASSISTANCE											
Sales Tax (BART 75%)	114,474,300	118,480,900	122,923,934	127,533,581	132,316,091	137,277,944	142,425,867	147,766,837	153,308,093	159,057,147	165,021,790
Property Tax	12,762,900	13,528,700	13,528,700	14,205,135	14,915,392	15,661,161	16,444,219	17,266,430	18,129,752	19,036,239	19,988,051
STA State Assistance (ADA only)	0	487,300	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
TDA State Assistance	550,400	809,600	470,000	448,000	417,000	377,000	324,000	353,000	385,000	420,000	471,000
San Mateo County	0	1,113,000	1,860,000	2,110,000	3,240,000	4,380,000	4,280,000	4,290,000	4,160,000	4,490,000	5,000,000
Cost Allocation Plan Reimbursement	1,360,000	2,248,300	2,326,991	2,408,435	2,492,730	2,579,976	2,670,275	2,763,735	2,860,465	2,960,582	3,064,202
Total Financial Assistance	129,147,600	136,667,800	141,609,624	147,205,151	153,881,213	160,776,081	166,644,361	172,940,002	179,343,311	186,463,968	194,045,043
ALLOCATIONS & OBLIGATIONS											
C-Car Revenue Bond Debt Service	(19,684,400)	(19,818,600)	(19,948,655)	(20,075,250)	(20,179,488)	(20,268,868)	(20,379,094)	(20,489,765)	(20,610,885)	(20,741,155)	(20,891,376)
New Bond Debt Service	0	(9,020,000)	(9,994,200)	(18,744,300)	(25,653,100)	(39,673,700)	(39,671,000)	(39,672,500)	(39,672,200)	(39,674,200)	(39,672,400)
Other Capital Allocations	(4,560,000)	(2,248,300)	(2,326,991)	(2,408,435)	(2,492,730)	(2,579,976)	(2,670,275)	(2,763,735)	(2,860,465)	(2,960,582)	(3,064,202)
Miscellaneous Other	0	0	0	0	0	0	0	0	0	0	0
Total Allocations & Obligations	(24,244,400)	(31,087,100)	(32,269,846)	(41,227,986)	(48,325,318)	(62,522,544)	(62,720,369)	(62,926,000)	(63,143,551)	(63,375,936)	(63,627,978)
FINANCIAL RESULT	0	0	4,269,758	(4,766,526)	(11,718,163)	(27,594,542)	(38,719,312)	(45,895,140)	(52,184,383)	(58,208,902)	(62,879,703)
BEGINNING YEAR BALANCE	---	0	0	4,269,758	(496,768)	(12,214,931)	(39,809,473)	(78,528,785)	(124,423,924)	(176,608,307)	(234,817,209)
ENDING YEAR BALANCE	0	0	4,269,758	(496,768)	(12,214,931)	(39,809,473)	(78,528,785)	(124,423,924)	(176,608,307)	(234,817,209)	(297,696,913)

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1995 SRTP FINANCIAL FORECAST

1995 SHORT-RANGE TRANSIT PLAN
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BART SALES TAX FARES
CORE+ADA+EXTENSIONS

	FY 95 EST/ACT	FY 96 BUDGET	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
REVENUE											
Net Rail Passenger Revenue	103,590,500	122,020,000	152,646,180	167,712,789	183,962,306	217,798,261	244,913,913	255,563,810	265,368,951	274,866,719	283,808,994
San Mateo County Surcharge Revenue	0	0	(4,741,572)	(3,772,990)	(4,133,042)	(8,164,352)	(11,934,036)	(12,296,582)	(12,647,158)	(13,138,686)	(13,207,532)
Net Express Bus Passenger Revenue	1,429,300	1,214,300	883,479	955,864	1,030,485	1,102,935	1,152,320	1,187,033	1,216,828	1,244,313	1,269,292
ADA Service Passenger Revenue	0	119,800	278,716	639,774	699,593	757,922	798,091	828,269	855,395	881,244	905,643
Total Net Passenger Revenue	105,019,800	123,354,100	149,066,803	165,535,438	181,559,342	211,494,766	234,930,289	245,282,530	254,794,015	263,853,590	272,776,398
Interest Revenue	7,121,100	7,190,200	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000
Other Operating Revenue	4,087,500	3,986,800	4,376,338	4,920,760	5,270,236	5,524,945	5,685,068	5,850,795	6,022,323	6,199,854	6,383,599
Subtotal Non-Fare Revenue	11,208,600	11,177,000	12,176,338	12,720,760	13,070,236	13,324,945	13,485,068	13,650,795	13,822,323	13,999,854	14,183,599
Total Operating Revenue	116,228,400	134,531,100	161,243,141	178,256,198	194,629,578	224,819,711	248,415,357	258,933,325	268,616,338	277,853,445	286,959,997
EXPENSE											
Net Labor	159,228,100	168,483,000	189,067,498	193,504,050	200,099,025	216,588,729	237,621,754	249,904,311	261,604,257	272,923,672	283,883,710
Express Bus Service	7,089,900	6,934,000	4,557,529	4,718,065	4,883,260	5,053,769	5,230,195	5,411,204	5,603,864	5,800,026	5,999,581
Shuttle Service	85,000	95,300	98,621	102,095	105,670	109,359	113,177	117,093	121,262	125,535	129,825
Purchased Transportation	1,561,600	1,654,400	1,712,048	1,772,354	1,834,417	1,898,462	1,964,737	2,032,733	2,105,107	2,178,795	2,253,758
ADA Service	1,477,600	2,520,700	4,739,871	5,896,809	6,103,197	6,316,809	6,537,898	6,766,724	7,003,559	7,248,684	7,502,388
Power, Traction & Station	20,121,500	21,863,800	25,173,806	26,074,349	27,094,172	29,811,490	32,986,036	34,405,882	35,705,651	37,459,240	38,957,620
Other Non-Labor	31,569,900	38,560,600	40,963,769	42,432,168	44,175,746	47,948,367	51,501,317	53,555,546	55,556,974	57,816,075	60,087,762
PERS	0	0	0	14,500,000	15,007,500	15,532,763	16,076,409	16,639,084	17,221,451	17,824,202	18,448,049
Total Operating Expense	221,131,600	240,111,800	266,313,162	288,999,890	299,303,007	323,259,748	352,031,522	368,832,577	384,922,126	401,376,230	417,262,693
OPERATING DEFICIT	(104,903,200)	(105,580,700)	(105,070,021)	(110,743,692)	(104,673,429)	(98,440,038)	(103,616,165)	(109,899,252)	(116,305,787)	(123,522,785)	(130,302,695)
FINANCIAL ASSISTANCE											
Sales Tax (BART 75%)	114,474,300	118,480,900	122,923,934	127,533,581	132,316,091	137,277,944	142,425,867	147,766,837	153,308,093	159,057,147	165,021,790
Property Tax	12,762,900	13,528,700	13,528,700	14,205,135	14,915,392	15,661,161	16,444,219	17,266,430	18,129,752	19,036,239	19,988,051
STA State Assistance (ADA only)	0	487,300	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
TDA State Assistance	550,400	809,600	470,000	448,000	417,000	377,000	324,000	353,000	385,000	420,000	471,000
San Mateo County	0	1,113,000	1,860,000	2,110,000	3,240,000	4,380,000	4,280,000	4,290,000	4,160,000	4,490,000	5,000,000
Cost Allocation Plan Reimbursement	1,360,000	2,248,300	2,326,991	2,408,435	2,492,730	2,579,976	2,670,275	2,763,735	2,860,465	2,960,582	3,064,202
Total Financial Assistance	129,147,600	136,667,800	141,609,624	147,205,151	153,881,213	160,776,081	166,644,361	172,940,002	179,343,311	186,463,968	194,045,043
ALLOCATIONS & OBLIGATIONS											
C-Car Revenue Bond Debt Service	(19,684,400)	(19,818,800)	(19,948,655)	(20,075,250)	(20,179,488)	(20,268,868)	(20,379,094)	(20,489,765)	(20,610,685)	(20,741,155)	(20,891,376)
New Bond Debt Service	0	(9,020,000)	(9,994,200)	(18,744,300)	(25,653,100)	(39,673,700)	(39,671,000)	(39,672,500)	(39,672,200)	(39,674,200)	(39,672,400)
Other Capital Allocations	(4,560,000)	(2,248,300)	(2,326,991)	(2,408,435)	(2,492,730)	(2,579,976)	(2,670,275)	(2,763,735)	(2,860,465)	(2,960,582)	(3,064,202)
Miscellaneous Other	0	0	0	0	0	0	0	0	0	0	0
Total Allocations & Obligations	(24,244,400)	(31,087,100)	(32,269,846)	(41,227,986)	(48,325,318)	(62,522,544)	(62,720,369)	(62,926,000)	(63,143,551)	(63,375,936)	(63,627,978)
FINANCIAL RESULT	0	0	4,269,758	(4,766,526)	882,466	(186,501)	307,827	114,750	(106,028)	(434,753)	114,370
BEGINNING YEAR BALANCE	---	0	0	4,269,758	(496,768)	385,698	199,197	507,025	621,775	515,747	80,994
ENDING YEAR BALANCE	0	0	4,269,758	(496,768)	385,698	199,197	507,025	621,775	515,747	80,994	195,364

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1995 SRTP FINANCIAL FORECAST

1995 SHORT RANGE TRANSIT PLAN
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MTC SALES TAX FARES

CORE+ADA+EXTENSIONS

	FY 95 EST/ACT	FY 96 BUDGET	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
REVENUE											
Net Rail Passenger Revenue	103,590,500	122,020,000	152,646,180	167,712,789	176,715,297	202,439,439	225,658,285	229,728,051	233,865,043	238,069,429	242,182,207
San Mateo County Surcharge Revenue	0	0	(4,741,572)	(3,772,990)	(4,133,042)	(6,184,352)	(11,934,036)	(12,296,582)	(12,647,158)	(13,138,686)	(13,207,532)
Net Express Bus Passenger Revenue	1,429,300	1,214,300	883,479	955,864	989,953	1,025,257	1,061,820	1,067,129	1,072,465	1,077,827	1,083,217
ADA Service Passenger Revenue	0	119,800	278,716	639,774	667,535	696,500	726,722	735,806	745,004	754,316	763,745
Total Net Passenger Revenue	105,019,800	123,354,100	149,066,803	165,535,438	174,239,742	195,996,844	215,512,792	219,234,404	223,035,353	226,762,887	230,821,637
Interest Revenue	7,121,100	7,190,200	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000	7,800,000
Other Operating Revenue	4,087,500	3,986,800	4,376,338	4,920,760	5,270,236	5,524,945	5,685,068	5,850,795	6,022,323	6,199,854	6,383,599
Subtotal Non-Fare Revenue	11,208,600	11,177,000	12,176,338	12,720,760	13,070,236	13,324,945	13,485,068	13,650,795	13,822,323	13,999,854	14,183,599
Total Operating Revenue	116,228,400	134,531,100	161,243,141	178,256,198	187,309,979	209,321,789	228,997,860	232,885,200	236,857,676	240,762,741	245,005,236
EXPENSE											
Net Labor	159,226,100	168,483,000	189,067,498	193,504,050	200,099,025	216,588,729	237,621,754	249,904,311	261,604,257	272,923,672	283,883,710
Express Bus Service	7,089,900	6,934,000	4,557,529	4,718,065	4,883,280	5,053,769	5,230,195	5,411,204	5,603,864	5,800,026	5,999,581
Shuttle Service	85,000	95,300	98,621	102,095	105,670	109,359	113,177	117,093	121,262	125,535	129,825
Purchased Transportation	1,561,600	1,654,400	1,712,048	1,772,354	1,834,417	1,898,462	1,964,737	2,032,733	2,105,107	2,178,795	2,253,758
ADA Service	1,477,600	2,520,700	4,739,871	5,896,809	6,103,197	6,316,809	6,537,898	6,766,724	7,003,559	7,248,684	7,502,388
Power, Traction & Station	20,121,500	21,863,800	25,173,806	26,074,349	27,094,172	29,611,490	32,986,036	34,405,882	35,705,651	37,459,240	38,957,620
Other Non-Labor	31,569,900	38,560,600	40,963,789	42,432,168	44,175,746	47,948,367	51,501,317	53,555,546	55,556,974	57,816,075	60,087,762
PERS	0	0	0	14,500,000	15,007,500	15,532,763	16,076,409	16,639,084	17,221,451	17,824,202	18,448,049
Total Operating Expense	221,131,600	240,111,800	266,313,162	288,999,890	299,303,007	323,259,748	352,031,522	368,832,577	384,922,126	401,376,230	417,262,693
OPERATING DEFICIT	(104,903,200)	(105,580,700)	(105,070,021)	(110,743,692)	(111,993,028)	(113,937,959)	(123,033,662)	(135,947,378)	(148,064,450)	(160,613,489)	(172,257,457)
FINANCIAL ASSISTANCE											
Sales Tax (BART 75%)	114,474,300	119,850,000	127,767,000	135,264,000	143,204,000	151,612,000	160,518,000	169,949,000	179,939,000	190,519,000	206,388,000
Property Tax	12,762,900	13,528,700	13,528,700	14,205,135	14,915,392	15,661,161	16,444,219	17,266,430	18,129,752	19,036,239	19,988,051
STA State Assistance (ADA only)	0	487,300	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
TDA State Assistance	550,400	809,600	470,000	448,000	417,000	377,000	324,000	353,000	385,000	420,000	471,000
San Mateo County	0	1,113,000	1,860,000	2,110,000	3,240,000	4,380,000	4,280,000	4,290,000	4,160,000	4,490,000	5,000,000
Cost Allocation Plan Reimbursement	1,360,000	2,248,300	2,326,991	2,408,435	2,492,730	2,579,976	2,670,275	2,763,735	2,860,465	2,960,582	3,064,202
Total Financial Assistance	129,147,600	138,036,900	146,452,691	154,935,570	164,769,122	175,110,137	184,736,495	195,122,165	205,974,217	217,925,821	235,411,254
ALLOCATIONS & OBLIGATIONS											
C-Car Revenue Bond Debt Service	(19,684,400)	(19,818,800)	(19,948,655)	(20,075,250)	(20,179,488)	(20,268,868)	(20,379,094)	(20,489,765)	(20,610,885)	(20,741,155)	(20,891,376)
New Bond Debt Service	0	(9,020,000)	(9,994,200)	(18,744,300)	(25,653,100)	(39,673,700)	(39,671,000)	(39,672,500)	(39,672,200)	(39,674,200)	(39,672,400)
Other Capital Allocations	(4,560,000)	(2,248,300)	(2,326,991)	(2,408,435)	(2,492,730)	(2,579,976)	(2,670,275)	(2,763,735)	(2,860,465)	(2,960,582)	(3,064,202)
Miscellaneous Other	0	0	0	0	0	0	0	0	0	0	0
Total Allocations & Obligations	(24,244,400)	(31,087,100)	(32,269,846)	(41,227,986)	(48,325,318)	(62,522,544)	(62,720,369)	(62,926,000)	(63,143,551)	(63,375,936)	(63,627,978)
FINANCIAL RESULT	0	1,369,100	9,112,824	2,963,893	4,450,776	(1,350,366)	(1,017,536)	(3,751,213)	(6,063,604)	(474,181)	
BEGINNING YEAR BALANCE	---	0	1,369,100	10,481,924	13,445,817	17,896,593	16,546,226	15,528,690	11,777,478	6,543,695	480,091
ENDING YEAR BALANCE	0	1,369,100	10,481,924	13,445,817	17,896,593	16,546,226	15,528,690	11,777,478	6,543,695	480,091	5,910

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San Francisco Bay Area Rapid Transit District

SHORT RANGE TRANSIT PLAN

July 1996 Through June 2006
Fiscal Years 1997 - 2006

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BART

June 27, 1996

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

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SHORT RANGE TRANSIT PLAN

FISCAL YEARS 1997 - 2006

The preparation of this report has been financed in part through a grant from the United States Department of Transportation, Federal Transportation Administration under the Urban Mass Transportation Act of 1964, as amended and passed through the Metropolitan Transportation Commission. This report has been prepared in conformance with MTC guidelines for Short Range Transit Plans.

The contents of this report reflect the views of BART which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects.

This report was researched and prepared by:

Martin Birkenthal and Pamela Herhold

Financial Planning Division
Department of Operating Budgets & Analysis
San Francisco Bay Area Rapid Transit District

June 27, 1996

BART

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
800 Madison Street - Lake Merritt Station
P.O. Box 12688
Oakland, CA 94604-2688
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June 27, 1996

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PRESIDENT

MARGARET K. PRYOR
VICE-PRESIDENT

RICHARD A. WHITE
GENERAL MANAGER

DIRECTORS

DAN RICHARD
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JOEL KELLER
2ND DISTRICT

ROY NAKADEGAWA
3RD DISTRICT

MARGARET K. PRYOR
4TH DISTRICT

SHERMAN LEWIS
5TH DISTRICT

THOMAS M. BLALOCK
6TH DISTRICT

WILFRED T. USSERY
7TH DISTRICT

JAMES FANG
8TH DISTRICT

MICHAEL BERNICK
9TH DISTRICT

To Reviewers of BART's draft 1996 Short Range Transit Plan:

Enclosed for your review and comment is the draft of BART's 1996 Short Range Transit Plan which covers the period July 1996 through June 2006 (i.e., fiscal years 1997 through 2006).

As part of the process of finalizing this document, a public meeting is schedule to be conducted at the August 8, 1996 BART Board of Directors meeting to receive verbal comments on the draft SRTP. This meeting will begin at 9:00 a.m. in the Board Room at BART headquarters at 800 Madison Street in Oakland (located directly above Lake Merritt Station).

Written comments may be submitted by August 8, 1996 to the following address:

Draft 1996 SRTP Comments
c/o Mr. Martin Birkenthal, MSQ-3
BART
800 Madison Street
Oakland, CA 94607

BAY AREA RAPID TRANSIT DISTRICT

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LIST OF ACRONYMS

AATC	Advanced Automatic Train Control (system)
ABAG	Association of Bay Area Governments
AC	Alameda-Contra Costa Transit District
ADA	Americans With Disabilities Act
AFC	Automatic Fare Collection (equipment)
BART	(San Francisco) Bay Area Rapid Transit District
CCCTA	Contra Costa County Transit Authority
CDV	Credit/Debit Vendor
CIP	(BART) Capital Improvement Program
CPI	Consumer Price Index
CPUC	California Public Utilities Commission
DAS	(BART) Data Acquisition System
DBE	Disadvantaged Business Enterprise
ECCTA	Eastern Contra Costa Transit Authority
FMP	Fleet Management Plan
FTA	Federal Transit Administration
FTE	Full-Time Equivalents (employees)
GIS	Geographic Information System
HOV	High-Occupancy Vehicle
JLMC	Joint Labor Management Committee
LAVTA	Livermore Amador Valley Transit Authority
MTC	Metropolitan Transportation Commission
MUNI	(San Francisco) Municipal Railway
OCC	(BART) Operations Control Center
PERS	(California) Public Employees Retirement System
PFM	(BART) Passenger Flow Model
SAMTRANS	San Mateo County Transit District
SLRT	Suspended Light Rail System
SRTP	(BART) Short Range Transit Plan
STA	(California) State Transportation Assistance
TDA	(California) Transportation Development Act
WAPA	Western Area Power Administration
WCCTA	Western Contra Costa Transit Authority (WestCAT)

CHAPTER 1

BART ORGANIZATION & SYSTEM OVERVIEW

The San Francisco Bay Area Rapid Transit District was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. Initial efforts focused on establishing the organization for the purpose of fulfilling the *BART District Act* which calls for the construction, operation, and maintenance of a rapid transit system in the Bay Area. Voter approval in 1962 of a $792 million general obligation bond issue in San Francisco, Alameda, and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71 mile system. BART was the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology.

The District is governed by a Board of nine publicly elected Directors, each representing the voters in one of nine election districts within the three-county District. Board meetings are normally conducted twice each month, are subject to prior notice, and are open to the public. Directors serve on various standing and special committees to deliberate and make recommendations to the full Board. These meetings are also subject to prior public notice and are open to the public.

The organization at the staff level (Figure 1-1) reflects the current management structure designed to effectively carry out the District's programs and policies. The General Manager, General Counsel, Controller/Treasurer, and District Secretary are Board-appointed officers and report directly to the Board of Directors. Other executive staff members consist of the Deputy General Manager, two Assistant General Managers, and four Executive Managers. These seven executive staff members, along with the Police Department and the Office of Civil Rights, report directly to the General Manager. Reporting to the executive staff are 38 Department Managers and their respective staffs. BART's FY 97 preliminary budgeted workforce is 3,325.5 full-time equivalent positions, 2,935.5 of which were for operations and 390 for capital projects.

MAJOR COMPONENTS OF BART'S CAPITAL PLANT

The 1962 general obligation bond issue provided funding for BART's core system (Figure 1-2) which includes: 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the operating fleet), 34 stations, and an administration/operations control center. Capital improvements made over the years have added to this inventory base and include 230 more cars, 2 additional stations, the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland (*KE* Track), and a new central train control computer.

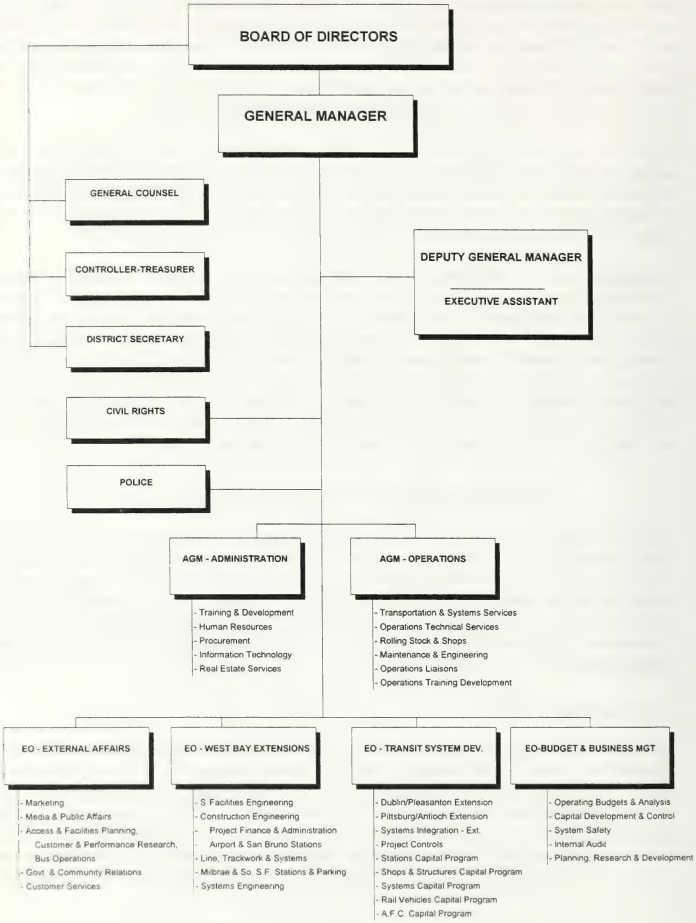
Track and Right-of-Way

BART is a third-rail, 1,000 volt DC, electrically powered railway. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 75 miles of continuously welded, double-mainline, 66 inch gauge track (150 miles, bi-directional). Approximately 21 miles of double-mainline track are in subway, 25 miles are elevated, and 29 miles are at grade. There are 54.5 miles of additional single track located in yards, sidings, and other locations. All but 3.2 miles of this latter amount are at grade, and include leads and sidings located in the four maintenance yards. The remaining 3.2 miles largely consist of the KE track through downtown Oakland which

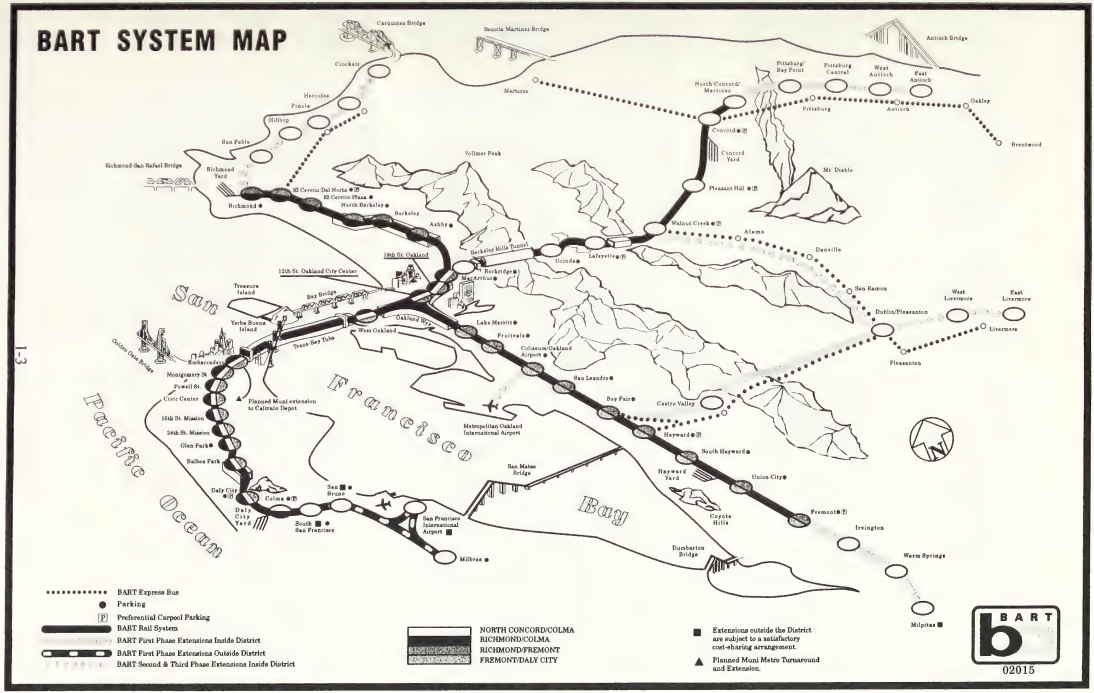
Figure 1 - 1

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

FISCAL YEAR 97 BUDGET



BART SYSTEM MAP



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is 1.8 miles in subway. A special track geometric vehicle is used to analyze the running rails and electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and a smooth operating surface. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards

Both planned preventative maintenance and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward, and Richmond), and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward shop also performs accident damage component and heavy repairs. A fifth maintenance facility located between Lake Merritt and Fruitvale Stations (Oakland Shops) provides support to buildings and grounds and equipment other than rail vehicles.

Revenue Vehicles

BART owns three types of revenue vehicles: control equipped A- and C-cars, and non-control equipped B-cars. A- and B-cars are BART's first generation vehicles, manufactured between 1971 and 1975. C-cars constitute BART's second and third generation fleet. C1-cars were manufactured between 1987 and 1990, and newer C2-cars in 1995 and 1996. Control equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 by 10.5 feet, and can be used as lead, mid-train, or trail vehicles. Trains are operated from the lead A- or C-car. Train movements are automatically controlled by computers located along the right-of-way. System train supervision is provided by BART's train control computer at the Operations Control Center located in the Lake Merritt Administration Building in downtown Oakland. Train operators aboard each train can override the automatic system should the need arise.

As of the end of March 1996, BART owned 667 vehicles consisting of: 135 A-cars, 7 of which were accident damaged, 2 out for renovation, 2 in long term storage, 2 used as engineering test vehicles, and 1 used as a training vehicle; 304 B-cars, 7 accident damaged; 150 C1-cars, 4 accident damaged and 1 converted to an engineering car as part of the C2-car manufacturing process; and 78 new C2-cars delivered and accepted out of an 80-car order from Morrison-Knudsen. Permissible train lengths range from three to ten cars. [The three-car minimum train length is a California Public Utilities Commission requirement.] The ten-car maximum length corresponds to station platform lengths. Resulting capacity is between 192 and 720 seated passengers for three and ten-car trains, respectively. Vehicle performance specifications include a maximum 80 mile per hour speed. Revenue service is based on a 70 mile per hour maximum speed, with the 80 mile per hour capability reserved for maintaining schedule adherence. The systemwide average speed for revenue service, including stations stops, is 35.2 miles per hour.

Stations and Parking

At the end of FY 96, the system consisted of 36 stations, 14 of which are in subway, 13 elevated, and 9 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. Stations are spaced between one half to one mile apart within and adjacent to San Francisco, Oakland, and Berkeley downtown areas, and two to four miles apart in suburban areas.

Stations are accessed by elevators and escalators in addition to stairways which link various levels to streets, connecting local transit, and parking areas. In downtown San Francisco and Oakland, special subway station entrances provide direct access to retail establishments. Other passenger amenities include restrooms fully accessible to persons with disabilities which are located in the paid area of each station.

Automatic fare collection equipment is located in each station to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information with regard to train schedules, local area destinations, connecting transit, and other information to assist BART riders. A public address system linked to BART's operations control center is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Depending upon location, station access facilities include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks, and parking. Parking is an important feature at suburban stations where a majority of BART riders arrive by auto. As of May 1996, BART's station parking inventory (Figure 1-3) consisted of 37,233 free spaces at 25 stations and 241 spaces at Lake Merritt Station (daily charge of 25¢). Free parking is also provided at four BART express bus park-ride lots which contain a total of 697 spaces.

Administration/Operations Control Center

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland above Lake Merritt Station. This facility also houses BART's Operation's Control Center (OCC) and central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer at OCC provides overall systemwide supervision of train movements. BART's OCC is an around-the-clock operation. Train controllers and other BART certified personnel located in OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between OCC and all train operators. A separate telephone system provides voice communication to station agents. Remote cameras located at key points allow OCC personnel to visually monitor train movements and station activities.

Figure 1-3

BART PARKING SPACE INVENTORY
SPACES ADDED DURING FISCAL YEAR 1996 (a)

LINE AND STATION	NUMBER OF PARKING SPACES AS OF JUNE 1995	PLANNED FOR FY 96	ADDED IN FY 96	AS OF JUNE 1996
SAN FRANCISCO LINE				
Colma	0	2,155	2,010	2,010
Daly City	2,228	0	0	2,228
Glen Park	55	0	0	55
West Oakland	414	0	0	414
SUBTOTAL	**2,697**	**2,155**	**2,010**	**4,707**
FREMONT LINE				
Fremont	2,494	0	0	2,494
Union City	1,218	0	0	1,218
South Hayward	1,307	0	0	1,307
Hayward	2,000	0	0	2,000
Bay Fair	1,903	0	0	1,903
San Leandro	1,295	0	0	1,295
Coliseum	1,084	0	0	1,084
Fruitvale	1,103	0	0	1,103
Lake Merritt (b,c)	241	0	0	241
SUBTOTAL	**12,645**	**0**	**0**	**12,645**
RICHMOND LINE				
Richmond	796	0	0	796
El Cerrito del Norte (c)	2,516	0	0	2,516
El Cerrito Plaza	766	0	0	766
North Berkeley (c)	870	0	0	870
Ashby	607	0	0	607
MacArthur	608	0	0	608
SUBTOTAL	**6,163**	**0**	**0**	**6,163**
CONCORD LINE				
North Concord/Martinez	0	2,050	2,003	2,003
Concord	2,518	0	0	2,518
Pleasant Hill	3,245	0	0	3,245
Walnut Creek (c)	2,403	0	0	2,403
Lafayette (c)	1,521	0	0	1,521
Orinda (c)	1,380	0	0	1,380
Rockridge (c)	889	0	0	889
SUBTOTAL	**11,956**	**2,050**	**2,003**	**13,959**
RAIL TOTAL	**33,461**	**4,205**	**4,013**	**37,474**
EXPRESS BUS PARK/RIDE				
Pittsburg/Bay Point	200	0	0	200
East Antioch	252	0	0	252
West Livermore	153	0	0	153
Brentwood	0	92	92	92
EXPRESS BUS TOTAL	**605**	**92**	**92**	**697**
SYSTEM GRAND TOTAL	**34,066**	**4,297**	**4,105**	**38,171**

(a) Data are for BART-owned paved facilities at existing rail stations and express bus park/ride lots.

(b) A $0.25 parking charge is in effect at Lake Merritt Station. All other BART-owned parking is free for BART customers.

(c) Walnut Creek, Lafayette, Orinda, Rockridge, El Cerrito del Norte, North Berkeley, Lake Merritt subject to parking controls.

BART RAIL SERVICE DESCRIPTION

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. Closing times for individual stations are coordinated with the schedule for the last train departure beginning approximately at midnight (Figure 1-4). The following is a description of BART rail service. BART express bus service is coordinated with the rail schedule. A description of express bus service is presented in a separate section following that for rail. BART also provides service in accordance with the Americans With Disabilities Act (ADA). A description of this service follows express bus.

Early Morning Rail Service - Weekdays

Weekday service begins at approximately 4:00 a.m., with the first train dispatches of the day from each of the system's four terminal stations. These trains operate on the North Concord-Colma and Fremont-Richmond routes. This service configuration is also known as *two-route X service*, and requires a transfer in downtown Oakland for trips which at other times are served by the Fremont-Daly City and Richmond-Daly City routes. A second set of four trains on the North Concord-Colma and Fremont-Richmond routes is dispatched 30 minutes later at approximately 4:30 a.m. At approximately 5:00 a.m., service transitions to four-route weekday base service, which continues until the start of morning peak service at about 6:00 a.m. Base daytime rail service on weekdays consists of 15-minute headways on each of the four routes in both directions: the three Transbay routes between Colma/Daly City and North Concord/Martinez, Fremont, and Richmond, and the East Bay route between Fremont and Richmond.

The Dublin/Pleasanton-Daly City route will be operational by late 1996. Weekday service on this new route is planned to begin at approximately 4:00 a.m. operating at 30 minute headways until 5:00 a.m. Between 5:00 a.m. and the start of peak service at 6:00 a.m. trains will operate every 15 minutes. This service will provide a second transbay route during early morning.

Peak Period Rail Service - Weekdays

Peak period service corresponds to weekday commute hours, typically between 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m. Monday through Friday. During these times, trains are operated at closer headways than during base service in order to provide sufficient capacity to meet higher home-to-work travel demand. During the morning commute, there are 50 trains in operation systemwide, providing service at a minimum scheduled headway of 2.5 minutes, during the peak one hour through San Francisco and downtown Oakland. This same minimum headway service is operated during the afternoon commute period. Peak service currently requires 501 vehicles, 453 on-line and 48 additional cars used for ready reserve trains and yard moves. All Transbay trains are sized to their 10-car maximum length during peak commute hours.

When the Dublin/Pleasanton-Daly City service begins in late 1996, peak period trains on this route are planned to be 7 cars long. Fremont-Daly City trains will be 8 car in length and all other

Figure 1 - 4

BART RAIL HEADWAYS AND HOURS OF SERVICE

	TRANSBAY ROUTES			EAST BAY	SAN FRANCISCO
	North Concord -Colma	Fremont- Daly City	Richmond- Daly City ✣	Fremont- Richmond	City Center Segment
***HEADWAYS** (minutes)*					
WEEKDAY					
Peak Hour	5.0	12.0	15.0	15.0	2.5
Midday	15.0	15.0	15.0	15.0	5.0
Night	20.0	*	*	20.0	10.0
SATURDAY					
Daytime	20.0	20.0	20.0	20.0	5.0
Night	20.0	*	*	20.0	10.0
SUNDAY					
All Day	20.0@	*	*	20.0	10.0
***SERVICE HOURS** (time)*					
WEEKDAY					
First Train lv	0359	0505#	0454#	0354	0430
Last Train ar	0124	2108#	2053#	0126	2455
SATURDAY					
First Train lv	0606	0844#	0605	0618	0607
Last Train ar	0124	2029#	1957#	0127	2452
SUNDAY					
First Train lv	0806	*	*	0818	0804
Last Train ar	0124	*	*	0127	2451

Notes:

* Denotes a route not in service during the identified time period. # Indicates that earlier and/or later service is available on other routes. In both instances (* and #), travel is accommodated on other routes with one transfer in downtown Oakland.

@ Indicates supplemental midday *Double Header* trains serving Oakland and San Francisco stations (until Dublin/Pleasanton opens).

✣ Peak period service on this route is extended to Colma.

transbay trains will be 10 cars long. Peak period cars on line will increase by 33 over today's 453, to 486.

Two additional peak period trains were placed in service in July 1995. These 5-car trains make one run each between Concord and South Hayward stations in the morning peak period and make the reverse runs in the afternoon peak. The primary goal of this additional service is to provide direct access to downtown Oakland from Contra Costa County as a congestion mitigation measure for freeway construction located in the vicinity of the I-680/24 interchange. The car and train requirements for this temporary service are not included in Figure 1-4 or other figures in this document. This service will terminate once the Dublin/Pleasanton-Daly City service begins in late 1996.

Base Rail Service - Weekdays, Daytime

The transition back to base service begins during the last hour of the morning peak, at approximately 8:00 a.m. Base service, which consists of 15-minute headways on each route in both directions, continues until approximately 4:00 p.m. when afternoon commute dispatches begin. Base weekday service requires a total of 39 trains operating on the system: ten trains on each of the North Concord-Colma, Fremont-Daly City, and Richmond-Fremont routes; and nine trains on the Richmond-Daly City route. [Service to Colma on the Richmond-Transbay route is provided during weekday peak periods only.] Trains stop at all stations along their designated route. The systemwide average speed for revenue service, including stations stops, is 35.2 miles per hour. As for all service periods, trains are sized to accommodate demand in compliance with the load factor standards established by the Board of Directors. When the North Concord-Colma route is extended to Pittsburg/Bay Point in Fall 1996, one additional train will be required for that route. The late 1996 opening of Dublin/Pleasanton-Daly City service, on a 15-minute headway and using 4-car trains, will bring the total base train requirement to 49.

Base Rail Service - Nights

Base night service consists of bi-directional 20-minute train headways on two routes: North Concord-Colma and Fremont-Richmond. This *two-route X service* requires a transfer in downtown Oakland for trips which at other times are served by the Fremont-Daly City and Richmond-Daly City routes. BART's train schedule allows transfers with a minimum of passenger waiting via timed train arrivals at 12th Street and MacArthur stations in Oakland. Base night service requires a total of 16 on-line trains beginning at approximately 7:00 p.m. with four terminal-station dispatches (two trains on each route providing service in both directions). The last four terminal-station train dispatches occur at or just after midnight. All four of these last trains meet and hold at MacArthur Station to insure that all passengers requiring a transfer are able to do so. These last trains end their runs at approximately 1:30 a.m. Individual station closings are coordinated with the schedule for these trains as they pass through stations.

When the Dublin/Pleasanton route opens, passengers traveling to the West Bay from stations south of Bay Fair will be able to transfer at Bay Fair to Daly City bound trains in the evening. A four-minute wait at Bay Fair will be required to transfer to trains originating from Dublin/Pleasanton. Likewise, on the return trip there is a four-minute transfer from the Dublin/Pleasanton-Daly City line to the Fremont bound trains. Passengers originating or destined to stations between Bay Fair and Fremont can also transfer at 12th Street Station to/from Colma trains.

Base Rail Service - Weekends and Holidays

Base daytime Saturday service consists of 28 trains on line, operating at 20-minute headways on two routes between 6:00 a.m. and 9:00 a.m., and then on all four routes between the hours of 9:00 a.m. and 6:00 p.m. After 6:00 p.m., base night service is in effect until closing. Base Sunday rail service consists of 16 trains on-line, operating at 20-minute headways on a *two-route X service* schedule (the same as Base Night Service) between the hours of 8:00 a.m. and closing. BART's Sunday schedule is supplemented by midday *Double Header* train service. This consists of Transbay trains operating at a 20-minute headway between MacArthur Station in Oakland and Daly City Station between 11:00 a.m. and 6:00 p.m. This service will be discontinued when Dublin/Pleasanton-Daly City service begins in late 1996.

Saturday Dublin/Pleasanton-Daly City service will operate on a 20-minute headway from 6:00 a.m. until closing. On Sunday, service will begin at 8:00 a.m. and continue until closing on 20-minute headways. On both days, the service is timed with the Richmond-Fremont service to provide a short-wait transfer between San Francisco lines and the stations between Bay Fair and Fremont.

Except for minor schedule and train length modifications, BART provides the following service schedules on holidays:

CELEBRATED HOLIDAY	SCHEDULE
New Years Day	Sunday
Martin Luther King Day	Weekday
Presidents' Day	Saturday
Memorial Day	Sunday
July 4th	Sunday
Labor Day	Sunday
Columbus Day	Weekday
Veterans' Day	Weekday
Thanksgiving	Sunday
Day After Thanksgiving	Weekday
Christmas	Sunday

Special Rail Service

BART service is coordinated with major Bay Area events. Additional service for special events is provided in three ways. The first is by lengthening regularly scheduled trains which are less than

the 10-car maximum length, and when BART patron demand to a particular event does not warrant higher train frequencies.

For events which require greater capacity and/or frequency of service, additional trains are placed in operation. This second method of adding service and capacity is typically implemented when the demand for BART service associated with an event is sharply peaked, such as following the end of a baseball game, rock concert, or other event having a large attendance.

The third way BART accommodates service to special events is to provide revenue operations at times when the system is normally closed, such as an early-Sunday morning opening for the annual Bay-to-Breakers footrace in San Francisco. Examples of special BART service include: extended hours of operation on New Year's Eve; longer and more trains to serve athletic/special events at the Oakland Coliseum, U.C. Berkeley, and San Francisco Civic/Convention Center; and a special 5 a.m. Sunday morning opening and trains to the start of the *Lifespan* footrace/walk across the Bay Bridge.

EXPRESS BUS SERVICE DESCRIPTION

BART provides express bus service on ten routes within four major travel corridors in Alameda and Contra Costa Counties as shown in Figure 1-5 and the table below. An additional route, not shown in Figure 1-5, is the *JX* express bus route which is funded by Caltrans through December 1996. This service is a freeway construction mitigation measure related to I-80 improvements currently underway. Service on this route is provided weekdays during peak commute periods only between El Cerrito del Norte Station and Pinole and Hercules.

All express bus service is coordinated with BART rail schedules, and is provided under contract with Laidlaw Transit. As shown in Figure 1-3, a total of 497 free parking spaces is currently provided at three express bus park-ride lots which are located on future extension station sites: Pittsburg/Bay Point (200), East Antioch (252 spaces), West Livermore (153 spaces) and Brentwood (92 spaces).

BART EXPRESS BUS CORRIDORS

I-80	Between El Cerrito del Norte Station and Pinole, Hercules, and Rodeo.
SR-4	Between North Concord/Martinez Station and Martinez in central Contra Costa County, and between North Concord/Martinez Station and Pittsburg, Antioch, and Brentwood in the eastern portion of the county.
I-680	Between Walnut Creek Station and Dublin and Pleasanton.
I-580	Between Bay Fair and Hayward Stations and Dublin, Pleasanton, and Livermore.

Figure 1 - 5

BART EXPRESS BUS HEADWAYS AND HOURS OF SERVICE

	LIVERMORE VALLEY & BAY FAIR & HAYWARD STATIONS ✣				EASTERN CONTRA COSTA & NORTH CONCORD/MARTINEZ STATION ✣✣				WALNUT CREEK STAT. & DUBLIN/PLEASANTON		RODEO & DEL NORTE	
	U	UL	UP	UX	PE	PE1	P2X	ME	D	DX	J	Q
HEADWAYS *(minutes)*												
WEEKDAY												
Peak Hour	30	30	30	30	30	30	*	30	*	30	30	30
Midday	30	60	*	*	60	60	*	*	*	60	40	*
Night	60	*	*	*	*	*	*	60	*	60	40	*
SATURDAY												
Daytime	30	*	*	*	*	*	60	*	40	*	30	*
Night	60	*	*	*	*	*	60	60	60	*	40	*
SUNDAY												
Daytime	60	*	*	*	*	*	60	60	60	*	40	*
Night	60	*	*	*	*	*	60	60	60	*	*	*
SERVICE HOURS *(time)*												
WEEKDAY												
First Bus lv	0525	0446	0452	0535	0509	0414	*	0535	*	0437	0451	0518
Last Bus ar	0041	2000	1929	1937	2107	0128	*	0050	*	0045	0049	2056
SATURDAY												
First Bus lv	0605	*	*	*	*	*	0600	0428	0607	*	0656	*
Last Bus ar	0023	*	*	*	*	*	0155	0025	0114	*	0029	*
SUNDAY												
First Bus lv	0840	*	*	*	*	*	0700	0926	0759	*	1012	*
Last Bus ar	0023	*	*	*	*	*	0200	0025	0056	*	1926	*

* No service provided
✣ To be revised when Dublin/Pleasanton Station opens in late 1996.
✣✣ To be revised when Pittsburg/Bay Point Station opens in Fall 1996.

ADA PARATRANSIT SERVICE DESCRIPTION

The following describes BART funded ADA paratransit service as of June 1996. BART's ADA program is currently being phased in, with a target of achieving full compliance by January 1997.

BART is addressing ADA compliance through a multi-faceted approach. BART's service area is large and overlaps service areas of several local transit operators. The District's approach to providing ADA service is, therefore, to combine services provided by local transit operators on BART's behalf with services being delivered on behalf of BART by a Paratransit Broker. These services are summarized below:

City and County of San Francisco

In 1995, BART and the San Francisco Municipal Railway (MUNI) executed an agreement whereby MUNI, which already provides ADA paratransit service to its patrons, would also provide ADA paratransit service to BART patrons traveling within San Francisco. This paratransit service is provided on a door-to-door basis by private firms which operate taxis, sedans, and/or accessible vans. Customers may telephone any of the participating paratransit providers. Most requests for paratransit service in San Francisco may be made at the time of need, similar to requesting taxi service.

Western Alameda and Contra Costa Counties

In April 1994, BART and AC Transit formed the East Bay Paratransit Consortium for the purpose of jointly implementing and administering ADA paratransit service in the BART/AC Transit combined service area. In July 1995, the Consortium hired Comsis Mobility Services, Incorporated to act as the paratransit broker for this service. In January 1996, limited paratransit service was initiated in the cities of Berkeley, Oakland, San Leandro, and Hayward. In March 1996, Transbay paratransit service was initiated between the East Bay and San Francisco. Service is door-to-door, and is provided on lift accessible vans. After July 1, 1996, dedicated sedans and vans will be used for service. In order to access this service, riders call the paratransit broker. The paratransit broker determines the eligibility of riders, schedules requested trips, and oversees the entire program, which is provided by private transportation providers under contract to the broker.

Contra Costa County and the I-580 Corridor

BART is also responsible for providing ADA paratransit service throughout the remainder of Contra Costa County and along the I-580 corridor between the San Leandro/Hayward area and the Dublin/Pleasanton area. BART's approach for complying with its responsibilities in these areas is two pronged. First, BART has executed agreements with the Western Contra Costa Transit Authority (WCCTA), the Central Contra Costa Transit Authority (CCCTA), the Eastern Contra Costa Transit Authority (ECCTA), and the Livermore Amador Valley Transit Authority (LAVTA), for providing all *local* ADA services on BART's behalf. These local transit operators currently

operate paratransit programs, most of which are operated by private contractors using lift accessible vans. Second, for inter-jurisdictional trips and for trips which occur during hours or days when these local transit operators do not provide this service, BART will provide paratransit service, through other providers which have yet to be identified. This ADA service expansion is targeted to begin in FY 97.

BART FARE COMPONENTS AND TICKET PRICES

Components of BART's fare structure are shown in Figure 1-6. The following presents information on BART fares for rail, express bus, and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula. Through March 31, 1996, FY 96 averaged $1.63 per trip, net of all discounts. Surcharges are applied for Transbay travel and trips originating from or destined to Daly City and Colma Stations, which are located in San Mateo County (San Mateo County is not a full participating member of the BART District). An additional *speed-premium* adjustment is made to fares which is based on the scheduled speed of a trip versus the systemwide average. BART's most recent fare increase took effect on April 1, 1996. The base rail fare is currently $1.00 for the shortest trips, within downtowns and other local areas. As shown in Figure 1-7, the highest rail fare is currently $4.00 for the 40-mile Transbay trip between Colma and Fremont. When Pittsburg/Bay Point opens in Fall 1996, the highest fare will be $4.25.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 can ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may purchase a $32 high-value ticket for $30, a savings of 6.25%.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/MUNI FastPass allows unlimited use of San Francisco Municipal Railway services and BART within the City of San Francisco. As of June 1996, the price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART, BART express bus, and other Bay Area transit systems which serve BART rail stations. Features of these and other fare instruments are summarized in Figure 1-6.

Fares for BART Express Bus and ADA paratransit service are also shown in Figure 1-6. ADA fares for paratransit service funded through the joint BART/AC Transit *East Bay Paratransit Consortium* are distance based and range from $2.00 for trips less than eight miles to a maximum of $6.00 for trips of up to 24 miles. These fares are in effect as of July 1, 1996 and are expected to increase in accordance with general BART fare increases. Fares for ADA service in other areas are set by local transit agencies, and are approximately $1.00. ADA paratransit fares may be paid in cash or prepaid coupons in some service areas.

Figure 1-6

BART FARE COMPONENTS AND TICKET PRICES

Effective April 1, 1996

TRIP LENGTH:	Up to 6 miles	$1.00
	Between 6 and 14 miles [1]	$1.20 + 8.9¢/mile
	Over 14 miles	$1.91 + 5.3¢/mile
SURCHARGE:	Transbay	59¢
	San Mateo County [2]	68¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time	±3.3¢/minute
RESULTING FARES:	Range [3]	$1.00 to $4.25
	Average fare (before discounts) [4]	$1.82
	Average fare paid (after discounts) [4]	$1.63
RAIL FARE DISCOUNTS & SPECIAL FARES: [5]	Children under 5	Free
	Children 5 through 12 (75% discount)	$4.00 ($16 value)
	Persons 65 and over (75% discount)	$4.00 ($16 value)
	Persons with qualifying disability (75% disc.)	$4.00 ($16 value)
	Regular adult (6.25% discount)	$30 ($32 value)
	Excursion (entry/exit, same station) [6]	$3.40
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [7]	$28-$61 (8 denom)
MONTHLY RAIL/ SF MUNI PASS: [8]	Fast Pass – (unlimited monthly use of BART and MUNI within San Francisco)	$35
ONE-WAY TRANSFERS TO: [9] **(issued at rail stations)**	BART Express Bus – Zone 1	45¢ (95¢ base fare)
	Zone 2	$1.00 ($1.50 base fare)
	CCCTA	50¢ ($1.00 base fare)
	Union City Transit	25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM: [9] **(issued at rail stations)**	AC Transit – From BART	$1.00 ($1.25 base fare)
	To BART	$1.00 ($1.25 base fare)
	SF MUNI, within SF--From BART	$1.00 ($1.00 base fare)
	To BART	Free ($1.00 base fare)
	SF MUNI, Daly City Station--From BART	Free ($1.00 base fare)
	To BART	Free ($1.00 base fare)
BART EXPRESS BUS: (1 Zone/2 Zone)	Children under 5	Free
	Children 5 through 12	20¢/40¢
	Regular Adult	95¢/$1.50
	Persons 65 and over	20¢/40¢
	Persons with a qualifying disability	20¢/40¢
ADA SERVICE: [10]	East Bay Paratransit Consortium	$2.00-$6.00
	BART/MUNI Cost-Sharing Agreement	40¢ approximately
	All other areas	$1.00-$6.00 approximately

Figure 1 - 6 continued

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (North Concord-Orinda, Fremont-Bay Fair, Richmond-Ashby) priced at fare indicated for trips under 6 miles.

2. The San Mateo County surcharge does not apply to Transbay trips.

3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The range of fares is based on the adopted fare resolution for the fare increase effective on April 1, 1996. Prior fare increases occurred on April 1, 1995, January 1, 1986, September 8, 1982, June 30, 1980, and November 3, 1975.

4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco MUNI Fast Pass. The figures shown are for FY 96 through March 31, 1996.

5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program (as of May 1996, there were 299 BART ticket outlets plus an additional 164 outlets covered under the MTC-sponsored Regional Transit Connection). In-station sales booths at Montgomery, Embarcadero, 12th Street, and Concord also sell a variety of ticket types. BART's Pass Office sells all ticket types via mail order.

6. There is a three-hour limit on the excursion fare.

7. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides on BART express buses and seven other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, MUNI, SamTrans, Contra Costa County Transit Authority, Santa Clara County Transportation Agency, Union City Transit, Dumbarton Express, and Martinez Link. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.

8. BART began accepting the regular adult MUNI FastPass for BART travel within San Francisco on April 1, 1983 (discounted FastPasses are not valid on BART). FastPasses are sold at stores, places of employment, and other outlets in San Francisco.

9. Except for the two-part $1.00 (round trip) Muni transfers issued in San Francisco stations, all other one-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare. The fare savings with the transfer is equal to the base fare less the additional fare paid to the connecting transit system.

10. BART and AC Transit have formed the East Bay Paratransit Consortium, which provides service to eligible BART customers in service areas that overlap with AC Transit. BART has also executed a cost-sharing agreement with San Francisco which permits eligible BART customers to use paratransit service provided by MUNI for travel within the City and County of San Francisco.

Figure 1 - 7

BART INTERSTATION FARES (as of April 1, 1996)

	Richmond	El Cerrito del Norte	El Cerrito Plaza	North Berkeley	Berkeley	Ashby	Macarthur	19th Street	12th Street	Lake Merritt	Fruitvale	Coliseum	San Leandro	Bay Fair	Hayward	South Hayward	Union City	Fremont	Concord	Pleasant Hill	Walnut Creek	Lafayette	Orinda	Rockridge	West Oakland	Embarcadero	Montgomery	Powell	Civic Center	16th Street	24th Street	Glen Park	Balboa Park	Daly City	Colma	Castro Valley	Dublin/Pleasanton	N Concord/Martinez	Pittsburg/Bay Point
Richmond	3.40	1.00	1.00	1.00	1.00	1.00	1.55	1.65	1.65	1.65	1.85	2.00	2.15	2.30	2.50	2.65	2.95	3.15	2.75	2.50	2.40	2.20	1.95	1.85	1.75	2.75	2.75	2.75	2.75	2.60	2.85	2.90	2.95	3.05	3.10	2.60	3.15	2.85	3.20
El Cerrito del Norte	1.00	3.40	1.00	1.00	1.00	1.00	1.30	1.45	1.45	1.45	1.70	1.85	2.05	2.20	2.35	2.55	2.80	3.05	2.65	2.40	2.30	2.10	1.85	1.35	1.55	2.65	2.65	2.65	2.65	2.70	2.80	2.85	2.90	3.00	2.35	3.00	2.75	3.05
El Cerrito Plaza	1.00	1.00	3.40	1.00	1.00	1.00	1.15	1.30	1.30	1.30	1.55	1.75	1.95	2.10	2.25	2.45	2.75	2.95	2.55	2.30	2.20	2.00	1.70	1.20	1.40	2.55	2.55	2.55	2.55	2.60	2.60	2.70	2.75	2.80	2.90	2.25	2.90	2.65	2.95
North Berkeley	1.00	1.00	1.00	3.40	1.00	1.00	1.00	1.05	1.05	1.05	1.35	1.55	1.85	1.95	2.10	2.30	2.60	2.80	2.40	2.15	2.10	1.85	1.60	1.00	1.20	2.40	2.40	2.40	2.40	2.45	2.60	2.60	2.65	2.70	2.75	2.10	2.80	2.65	2.85
Berkeley	1.00	1.00	1.00	1.00	3.40	1.00	1.00	1.00	1.00	1.00	1.30	1.50	1.80	1.95	2.10	2.30	2.60	2.80	2.40	2.15	2.05	1.80	1.40	1.00	1.15	2.35	2.35	2.35	2.35	2.45	2.45	2.55	2.60	2.65	2.75	2.10	2.80	2.50	2.80
Ashby	1.00	1.00	1.00	1.00	1.00	3.40	1.00	1.00	1.00	1.00	1.20	1.40	1.70	1.90	2.05	2.25	2.55	2.75	2.35	2.10	2.00	1.70	1.30	1.00	1.00	2.25	2.25	2.25	2.25	2.35	2.40	2.50	2.55	2.60	2.70	2.05	2.70	2.50	2.80
Macarthur	1.55	1.30	1.15	1.00	1.00	1.00	3.40	1.00	1.00	1.00	1.25	1.55	1.80	2.00	2.15	2.45	2.65	2.85	2.10	2.00	1.85	1.65	1.00	1.00	1.00	2.10	2.10	2.10	2.10	2.20	2.30	2.45	2.45	2.55	2.60	2.00	2.65	2.50	2.80
19th Street	1.65	1.45	1.30	1.05	1.00	1.00	1.00	3.40	1.00	1.00	1.00	1.00	1.40	1.65	1.90	2.10	2.40	2.60	2.40	2.15	2.05	1.75	1.40	1.00	1.00	2.00	2.00	2.00	2.00	2.10	2.15	2.30	2.40	2.50	2.65	1.90	2.60	2.60	2.80
12th Street	1.65	1.45	1.30	1.05	1.00	1.00	1.00	1.00	3.40	1.00	1.00	1.00	1.40	1.65	1.90	2.10	2.40	2.60	2.40	2.15	2.05	1.75	1.40	1.00	1.00	2.00	2.00	2.00	2.00	2.10	2.15	2.30	2.40	2.50	2.65	1.90	2.60	2.60	2.80
Lake Merritt	1.65	1.45	1.30	1.05	1.00	1.00	1.00	1.00	1.00	3.40	1.00	1.00	1.40	1.65	1.90	2.10	2.40	2.60	2.40	2.15	2.05	1.75	1.40	1.00	1.00	2.00	2.00	2.00	2.00	2.10	2.15	2.30	2.40	2.50	2.65	1.90	2.60	2.60	2.80
Fruitvale	1.85	1.75	1.55	1.35	1.30	1.20	1.00	1.00	1.00	1.00	3.40	1.00	1.00	1.35	1.65	1.95	2.25	2.45	2.45	2.20	2.15	1.90	1.60	1.10	1.00	2.25	2.25	2.25	2.25	2.35	2.45	2.50	2.55	2.65	2.70	1.65	2.45	2.60	2.90
Coliseum	2.00	1.85	1.75	1.55	1.50	1.40	1.25	1.00	1.00	1.00	1.00	3.40	1.00	1.00	1.40	1.75	2.10	2.35	2.60	2.35	2.25	2.05	1.80	1.30	1.25	2.45	2.45	2.45	2.45	2.55	2.65	2.70	2.75	2.85	1.45	2.30	2.70	3.00	
San Leandro	2.15	2.05	1.95	1.85	1.80	1.70	1.55	1.40	1.40	1.40	1.00	1.00	3.40	1.00	1.00	1.45	1.90	2.15	2.75	2.50	2.40	2.20	2.00	1.60	1.50	2.65	2.65	2.65	2.65	2.70	2.75	2.80	2.85	2.95	3.00	1.00	2.15	2.90	3.20
Bay Fair	2.30	2.20	2.10	1.95	1.95	1.90	1.80	1.65	1.65	1.65	1.30	1.00	1.00	3.40	1.00	1.00	1.00	2.90	2.65	2.65	2.35	2.10	1.80	1.75	2.80	2.80	2.80	2.80	2.80	2.90	2.95	3.00	3.10	3.15	1.00	1.00	3.00	3.35	
Hayward	2.50	2.35	2.25	2.15	2.10	2.05	2.00	1.90	1.90	1.90	1.65	1.45	1.00	1.00	3.40	1.00	1.00	1.00	3.05	2.85	2.75	2.50	2.30	2.00	2.00	2.95	2.95	2.95	2.95	3.00	3.05	3.15	3.20	3.25	3.30	1.00	1.15	3.20	3.50
South Hayward	2.65	2.55	2.45	2.30	2.30	2.25	2.15	2.10	2.10	2.10	1.95	1.75	1.45	1.00	1.00	3.40	1.00	1.00	3.25	3.00	2.90	2.70	2.45	2.15	2.15	3.15	3.15	3.15	3.15	3.20	3.20	3.30	3.35	3.45	3.50	1.50	2.35	3.35	3.70
Union City	2.95	2.80	2.75	2.60	2.60	2.55	2.45	2.40	2.40	2.40	2.25	2.10	1.90	1.00	1.00	1.00	3.40	1.00	3.55	3.30	3.20	3.00	2.75	2.45	2.45	3.45	3.45	3.45	3.45	3.50	3.50	3.60	3.65	3.70	3.80	1.95	2.65	3.65	3.95
Fremont	3.15	3.05	2.95	2.80	2.80	2.75	2.65	2.60	2.60	2.60	2.45	2.35	2.15	1.00	1.00	1.00	3.40	3.75	3.50	3.40	3.20	2.95	2.65	2.65	2.65	3.65	3.65	3.65	3.65	3.70	3.70	3.80	3.85	3.90	4.00	2.20	2.85	3.85	4.15
Concord	2.75	2.65	2.55	2.40	2.40	2.35	2.35	2.40	2.40	2.40	2.45	2.60	2.75	2.90	3.05	3.25	3.55	3.75	3.40	1.00	1.00	1.00	1.00	2.30	2.45	3.45	3.45	3.45	3.45	3.50	3.55	3.60	3.65	3.75	3.80	3.05	3.75	1.00	1.00
Pleasant Hill	2.50	2.40	2.30	2.15	2.15	2.10	2.10	2.15	2.15	2.15	2.20	2.35	2.60	2.65	2.85	3.00	3.30	3.60	1.00	3.40	1.00	1.00	1.00	2.20	2.20	3.20	3.20	3.20	3.20	3.25	3.30	3.35	3.40	3.50	3.65	2.85	3.50	1.00	1.00
Walnut Creek	2.40	2.30	2.20	2.10	2.05	2.00	2.00	2.05	2.05	2.05	2.15	2.25	2.40	2.55	2.75	2.90	3.20	3.40	1.00	1.00	3.40	1.00	1.00	1.85	2.10	3.10	3.10	3.10	3.10	3.15	3.20	3.25	3.30	3.40	3.45	2.75	3.40	1.00	1.00
Lafayette	2.20	2.10	2.00	1.85	1.80	1.70	1.65	1.75	1.75	1.75	1.90	2.05	2.20	2.35	2.50	2.70	3.00	3.20	1.00	1.00	3.40	1.00	1.00	1.65	1.90	2.90	2.90	2.90	2.90	2.95	3.05	3.10	3.20	3.25	2.50	3.20	1.75	2.15	
Orinda	1.95	1.85	1.70	1.50	1.40	1.30	1.00	1.40	1.40	1.40	1.60	1.80	2.00	2.10	2.30	2.45	2.75	2.95	1.00	1.00	1.00	3.40	1.00	1.50	2.65	2.65	2.65	2.65	2.70	2.75	2.85	2.90	2.95	3.00	2.30	2.95	2.05	2.40	
Rockridge	1.85	1.35	1.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.30	1.50	1.80	2.00	2.15	2.45	2.65	2.30	2.00	1.85	1.55	1.00	3.40	1.00	2.25	2.25	2.25	2.25	2.35	2.40	2.50	2.55	2.65	2.70	2.00	2.65	2.40	2.70
West Oakland	1.75	1.55	1.40	1.20	1.15	1.00	1.00	1.00	1.00	1.00	1.00	1.25	1.50	1.75	2.00	2.15	2.45	2.65	2.45	2.20	2.10	1.90	1.50	1.00	3.40	1.80	1.80	1.80	1.80	2.00	2.05	2.20	2.30	2.45	2.50	2.00	2.65	2.60	2.90
Embarcadero	2.75	2.65	2.55	2.40	2.35	2.25	2.10	2.00	2.00	2.00	2.00	2.25	2.45	2.65	2.80	2.95	3.15	3.45	3.65	3.45	3.25	3.10	2.90	2.65	2.25	1.80	3.40	1.00	1.00	1.00	1.00	1.00	1.05	1.90	2.00	2.85	3.65	3.85	3.85
Montgomery	2.75	2.65	2.55	2.40	2.35	2.25	2.10	2.00	2.00	2.00	2.00	2.25	2.45	2.65	2.80	2.95	3.15	3.45	3.65	3.45	3.25	3.10	2.90	2.65	2.25	1.80	1.00	3.40	1.00	1.00	1.00	1.00	1.05	1.90	2.00	2.95	3.65	3.85	3.85
Powell	2.75	2.65	2.55	2.40	2.35	2.25	2.10	2.00	2.00	2.00	2.00	2.25	2.45	2.65	2.80	2.95	3.15	3.45	3.65	3.45	3.25	3.10	2.90	2.65	2.25	1.80	1.00	1.00	3.40	1.00	1.00	1.00	1.05	1.90	2.00	2.95	3.65	3.85	3.85
Civic Center	2.75	2.65	2.55	2.40	2.35	2.25	2.10	2.00	2.00	2.00	2.00	2.25	2.45	2.65	2.80	2.95	3.15	3.45	3.65	3.45	3.25	3.10	2.90	2.65	2.25	1.80	1.00	1.00	1.00	3.40	1.00	1.00	1.05	1.90	2.00	2.95	3.65	3.85	3.85
16th Street	2.60	2.70	2.60	2.45	2.45	2.35	2.20	2.10	2.10	2.10	2.35	2.65	2.70	2.85	3.00	3.20	3.50	3.70	3.50	3.25	3.15	2.95	2.70	2.35	2.00	1.00	1.00	1.00	1.00	3.40	1.00	1.00	1.70	1.85	3.05	3.70	3.65	3.90	
24th Street	2.85	2.70	2.60	2.50	2.45	2.40	2.30	2.15	2.15	2.15	2.45	2.55	2.75	2.90	3.05	3.20	3.50	3.70	3.55	3.30	3.20	2.95	2.75	2.40	2.05	1.00	1.00	1.00	1.00	1.00	3.40	1.00	1.00	1.70	1.85	3.05	3.70	3.65	3.95
Glen Park	2.90	2.80	2.70	2.60	2.55	2.50	2.45	2.30	2.30	2.30	2.50	2.65	2.80	2.95	3.10	3.30	3.60	3.80	3.60	3.35	3.25	3.05	2.85	2.50	2.20	1.00	1.00	1.00	1.00	1.00	1.00	3.40	1.00	1.70	1.70	3.15	3.80	3.75	4.05
Balboa Park	2.95	2.85	2.75	2.65	2.60	2.55	2.45	2.40	2.40	2.40	2.55	2.70	2.85	3.00	3.20	3.35	3.65	3.85	3.65	3.40	3.30	3.10	2.90	2.55	2.30	1.05	1.05	1.05	1.05	1.00	1.00	1.00	3.40	1.70	1.70	3.20	3.85	3.60	4.10
Daly City	3.05	2.90	2.80	2.70	2.65	2.60	2.55	2.60	2.60	2.60	2.65	2.75	2.95	3.10	3.25	3.45	3.70	3.90	3.70	3.50	3.40	3.20	2.95	2.65	2.45	1.90	1.90	1.90	1.90	1.70	1.70	1.70	1.70	3.40	1.70	3.25	3.90	3.85	4.15
Colma	3.10	3.00	2.90	2.75	2.75	2.70	2.60	2.55	2.55	2.55	2.70	2.85	3.00	3.15	3.30	3.50	3.80	4.00	3.80	3.55	3.45	3.25	3.00	2.70	2.50	2.00	2.00	2.00	2.00	1.90	1.85	1.70	1.70	1.70	3.40	3.30	4.00	3.90	4.25
Castro Valley	2.60	2.35	2.25	2.15	2.10	2.05	2.00	1.90	1.90	1.90	1.65	1.45	1.00	1.00	1.00	1.00	1.95	2.20	3.05	2.85	2.75	2.50	2.30	2.00	2.00	2.95	2.95	2.95	2.95	3.00	3.05	3.15	3.20	3.25	3.30	3.40	1.00	3.20	3.50
Dublin/Pleasanton	3.15	3.00	2.90	2.80	2.80	2.70	2.65	2.60	2.60	2.60	2.45	2.30	2.15	1.00	2.15	2.35	2.65	2.85	3.75	3.50	3.40	3.20	2.95	2.65	2.65	3.65	3.65	3.65	3.65	3.65	3.70	3.80	3.85	3.90	4.00	1.00	3.40	3.85	4.15
N Concord/Martinez	2.85	2.75	2.65	2.55	2.50	2.50	2.50	2.50	2.50	2.50	2.60	2.70	2.90	3.00	3.20	3.35	3.65	3.85	1.00	1.00	1.00	1.75	2.05	2.40	2.60	3.65	3.65	3.65	3.65	3.60	3.65	3.75	3.80	3.85	3.90	3.20	3.85	3.40	1.00
Pittsburg/Bay Point	3.20	3.05	2.95	2.85	2.80	2.80	2.80	2.80	2.80	2.80	2.90	3.00	3.20	3.35	3.50	3.70	3.95	4.15	1.00	1.00	1.00	2.15	2.40	2.70	2.90	3.85	3.85	3.85	3.85	3.90	3.95	4.05	4.10	4.15	4.25	3.50	4.15	1.00	3.40

CHAPTER 2

GOALS AND OBJECTIVES & SERVICE EVALUATION

Throughout its history, BART's mission has been to deliver safe, reliable, customer-oriented transportation. With more than two decades of operational experience following its engineering and construction phases, BART continues to be guided by those key descriptive words: safe, reliable, customer oriented. Evolution of BART has been greatly influenced by challenges presented on many fronts, including those relating to technology, fiscal requirements, and political realities.

BART has continually set high standards for itself as embodied by the District's goals and objectives. Central to achieving prescribed standards is the importance the organization places on nurturing a talented and dedicated workforce, capable of maintaining the system while preparing to meet the challenges of the future. As such, the organization's effectiveness is directly related to its policies and procedures to promote positive change.

The evaluation of BART service and programs as presented in this chapter is structured around the policy framework that guides current operations and development of new services. BART's goals (Figure 2-1) are the fundamental policy statements which provide focus and help establish priorities among existing and new programs. Specific performance indicators and standards (Figure 2-2) are identified and discussed in terms of evaluating how successful the organization has been in addressing its goals.

Special SRTP topics are also discussed as they relate to the goals. These include: capital program planning and implementation, congestion management planning, emergency contingency planning, DBE and Title VI compliance, accessibility for the elderly and persons with disabilities, and privatization.

GOAL 1

Provide Safe, Reliable, High-Quality and Economical Transportation Service to the Bay Area Community

BART's first goal follows directly from its mission statement which is to deliver safe, reliable, customer-oriented transportation. The focus is train performance which requires achievement of high performance standards for all aspects of BART operations. Programs are implemented and actions routinely performed as a marketing tool to win new customers and to ensure that BART's current customers experience high-quality service.

SAFETY & SECURITY

BART operating procedures are governed by stringent safety standards. BART's Safety Department works closely with the California Public Utilities Commission (CPUC), as well as internally with BART operations, maintenance, engineering, and other departments to ensure continued compliance with all prescribed safety standards and procedures.

Figure 2 - 1

BART GOALS

1. Provide safe, reliable, high-quality and economical transportation service to the Bay Area community.

2. Deliver user-friendly services to all our customers.

3. Empower employees to function as owners of the BART organization.

4. Provide an environment free of impediments to opportunities for employees and disadvantaged business enterprises, and one which encourages cooperation and develops an organizational team of highly motivated staff.

5. Develop BART services and facilities to expand District markets and capture new revenue sources.

6. Secure and manage the funds necessary to maintain and expand the system and to operate BART according to fiscally sound business practices.

7. Take the leadership role in integrating various features of regional transportation systems in policy, finance, and operations.

8. Build constituencies at all levels of government to support the BART organization and its programs.

Figure 2 - 2

BART PERFORMANCE INDICATORS AND STANDARDS

PERFORMANCE INDICATORS	3RD QUARTER, FY 96, YEAR TO DATE		
	ACTUAL	STANDARD	STATUS
Average Ridership			
Weekday	248,028	246,764	MET
Customers on Time			
Peak	92.0%	94.0%	NOT MET
Daily	92.6%	94.0%	NOT MET
Trains on Time			
Peak	85.7%	n/a	n/a
Daily	89.6%	95.0%	NOT MET
Peak Period Transbay Car Throughput			
AM Peak	98.5%	97.5%	MET
PM Peak	98.0%	97.5%	MET
Car Availability at 4 a.m.	469	488	NOT MET
Mean Time Between Failures	948	1,200	NOT MET
Elevators in Service	97.6%	97.0%	MET
Escalators in Service			
Street	92.5%	95.0%	NOT MET
Platform	97.8%	95.0%	MET
Automatic Fare Collection			
Gates	96.6%	95.0%	MET
Vendors	93.7%	90.0%	MET
Environment Outside Stations	3.5	3.0	MET
Environment Inside Stations	3.6	3.5	MET
Service Personnel	86.7%	96.8%	NOT MET
Vandalism	2.2	2.6	NOT MET
Customer Complaints			
Total Complaints	4,404	n/a	n/a
Complaints per 100,000	8.2	n/a	n/a
DBE Participation	22.6%	21.0%	MET
Rail Cost per Passenger Mile	$0.244	$0.252	MET
System Operating Ratio	56.5%	55.0%	MET
Police			
Part 1 Crime	2,467	2,892	MET
Crimes Against Persons	214	228	MET
Trains	31	n/a	n/a
Parking Lots	75	n/a	n/a
Stations	108	n/a	n/a
Auto Theft	453	501	MET
Auto Burglary	851	1,044	MET
Safety			
Station Incidents	531	630	MET
Vehicle Incidents	129	174	MET
Lost Time Injuries/Illnesses	131	312	MET
OSHA Recordable Injuries Illnesses	292	426	MET
Unscheduled Door Openings	13	14	MET
Rule Violations Summary	21	35	MET

Emergency Preparedness

During FY 96, BART System Safety continued efforts for contingency planning and emergency preparedness exercises. These included activities with local fire departments, emergency medical responders, and other emergency providers. FY 96 was the first year in which fire departments responsible for providing services within areas containing the new extension stations and track (North Concord/Martinez and Dublin/Pleasanton) were included in BART's emergency preparedness training.

Also in FY 96, revisions were made to the *Operations Rules and Procedures Manual*. The *System Safety Program Plan* was completed and includes the new extensions. Activities in the area of contingency safety planning also include BART's recently revised *Emergency Plan.* This plan identifies alternate procedures and actions which may need to be taken by BART's transportation and/or maintenance departments, BART Police, local fire departments, and other emergency service providers. The *Emergency Plan*'s purpose is to aid in providing the most effective responses to variety of emergencies that may occur within the BART system.

FY 96 also included the first District training on the State Emergency Management System, which is the model for BART's emergency management program.

BART Police

The BART Police Department is committed to ensuring a safe and secure environment for patrons and employees of the District. The department is dedicated to reducing crime on District property by being proactive in its approach to the prevention of criminal activity. The department is in its final stages of decentralization and anticipates full decentralization during FY 97. This approach will allow the department to provide better service to BART patrons and employees. BART Police is also striving to develop community ties to enhance communication and service.

SERVICE RELIABILITY

Stringent preventative maintenance procedures, efficient parts procurement and inventory methods, and technical expertise developed over the years have been instrumental in the achievement of high reliability standards.

On-Time Performance

Passenger on-time performance is defined as the percentage of customers arriving at their destination stations within five minutes of the scheduled train-run times. Service in FY 96 was impacted by heavy winter rains which required slower than normal average speeds. First three quarters' of FY 96 daily passenger on-time performance of 92.6% reflects this, which is below the standard of 94% (Figure 2-2).

Compared to passenger on-time, train on-time performance for the first three quarters of FY 96 averaged 89.6% for all operations and 85.7% for peak periods. For the second consecutive year, weather conditions and speed reductions noted above precluded the on-time performance of 94% to 97% seen in prior years.

Car Availability

During July through March of FY 96, an average of 469 vehicles were available for service each day by 4 a.m. This is 4.0% under the target of 488 cars (Figure 2-2). An increase in the number of equipment checks imposed in FY 96 for the purpose of increasing vehicle reliability placed additional demands on shop output during the year.

Mean-Time-Between Failures

Also in support of BART's delay-reduction program were efforts in FY 96 to increase the mean-time-between service failures. A key focus has been to reduce vehicle failures to no more than one every 1,200 car hours. Actual performance in the first three quarters of FY 96 was one failure every 948 car hours (Figure 2-2). Over the last two years, performance with respect to this measure has declined annually. BART's captive fleet program provides a framework for developing strategies to assist in reducing vehicle caused failures. Under this program, individual cars are assigned to specific maintenance yards, resulting in more effective control and attention to vehicle failures. Each yard has developed a *repeater car* program to reduce delay from repetitive failures.

Load Factors

Train occupancy is continually monitored at peak screenlines. Within headway and train-length constraints, appropriate train capacity is scheduled to meet demand. BART's Data Acquisition System (DAS) and automated train history files provide the data for the Passenger Flow Model (PFM) which is used in the analysis and reporting of load factors, or the ratio of on-board passengers to train seats. Peak load factors are measured over a three-hour period, one in the morning and one in the afternoon. Each three-hour peak period consists of a peak one-hour maximum demand and a *shoulder* period of two hours duration.

Morning transbay peak period load factors averaged 1.09 during February 1996, versus a target of no higher than 1.15. More detailed load factor data by route and for other time periods for FY 96 are not available.

GOAL 2
Deliver User-Friendly Service to All Our Customers

This goal speaks to providing efficient, equitable, and accessible service. This includes maintaining and enhancing customer relations, and making information readily available; coordinating services, fares, and transfers among operators; meeting federal mandates for ADA paratransit service and Title VI programs; and improving overall station accessibility.

CUSTOMER RELATIONS AND INFORMATION

BART staff receive special training to assist them in responding to customer questions and needs. A new program implemented in FY 96, *Customer Appreciation Day*, focuses on showing appreciation for BART customers.

When customers are dissatisfied with any aspect of BART service, they are encouraged to communicate their concerns directly to the Customer Services staff. Approximately 53,000 complaints were received in FY 95 on a base of 72 million riders. In FY 96, a new system tracking customer complaints by location and complaint type was implemented. This system allows Customer Services staff to track trends in particular areas in order to focus efforts on improving service delivery. In FY 96, approximately 90% of all complaints were answered within the goal of 10 days from receipt. Additionally, BART's Transit Information Center receives approximately 400,000 telephone calls annually. The goal is to respond to 95% of customer inquiries. Currently, the response rate is 92%, a considerable increase over FY 94's rate of 60%.

A variety of brochures is available to riders at bins located near station agents booths, entry/exit gates, kiosks, and other locations. Brochures have recently been updated to include extension stations and new fares. Also provided is information concerning how to use the system, destinations, including new stations, points of interest the system serves, and where discount tickets may be purchased. Brochures are also available in Cantonese and Spanish. The *BART & Buses* brochure, containing route and schedule information for local transit operators, is a popular all-in-one guide to the Bay Area via public transit.

BART is also making progress on *Credit/Debit Ticket Vendors* (CDV) project which will allow customers to use credit cards, debit cards, and cash for purchasing high-value BART tickets and BARTPlus tickets. This improvement will make BART easier to use and should be available in 20 stations by the end of FY 97.

INTER-OPERATOR COORDINATION

The importance of system integration has led BART to implement projects which make using transit more convenient and easier. Improvements such as coordinating schedules, fares, transfer agreements, and providing better information for inter-operator connections serve to promote use of all transit systems. Transit centers are being established at Concord, Walnut Creek, El Cerrito del Norte, Daly City, San Leandro, Bay Fair, and Hayward stations. These transit centers improve bus circulation, signs, and passenger information, and also add bus zones and more comfortable passenger waiting areas. The transit centers at Concord, El Cerrito del Norte, and Bay Fair stations are complete and construction for the Daly City Station transit center is scheduled to be complete by the end of FY 97.

Examples of coordination with other Bay Area Transit Operators are BARTPlus and BART/MUNI FastPass. BARTPlus is advantageous to BART passengers who ride to or from BART on local bus systems. The ticket comes in eight different values ranging from $28 to $61 per half-month. The ticket entitles the BART passenger to $15-$50 worth of BART rides plus unlimited rides on AC Transit (not including Transbay service), BART Express, CCCTA, Dumbarton (local service only), Martinez Link, SamTrans, Santa Clara County Transit, MUNI, and Union City Transit. The monthly $35 BART/MUNI FastPass allows unlimited travel on MUNI and on BART between Embarcadero and Balboa Park Stations in San Francisco.

BART also participates in emergency transportation service planning. This includes interim and future efforts to improve and or replace freeways damaged and/or destroyed by the October 1989 Loma Prieta Earthquake. Caltrans and individual counties are the lead agencies, through state-mandated regulations which govern county congestion management planning activities.

AMERICANS WITH DISABILITIES ACT (ADA)

The ADA Act requires all transit operators to provide comparable *paratransit* service to individuals who are unable to use regularly scheduled public transit services due to a disability. In order to come into full compliance with ADA requirements by the mandated January 1997 deadline, BART is working with Bay Area local transit agencies, many of which have already established paratransit services operating within BART's service area.

In April 1994, BART and AC Transit executed an agreement, creating the *East Bay Paratransit Consortium*. The Consortium is responsible for administrating ADA paratransit services within the combined BART/AC Transit service area. Service is overseen by a paratransit broker who contracts with qualified service providers.

In January 1995, BART executed a cost-sharing agreement with MUNI whereby MUNI provides ADA paratransit service to BART patrons traveling within San Francisco.

During FY 96, BART executed agreements with WCCTA, ECCTA, and LAVTA, and extended a pre-existing Memorandum of understanding with CCCTA, whereby these local transit operators will provide some ADA paratransit service on behalf of BART in portions of Contra Costa and Alameda Counties.

Original and updated design standards and features of stations and vehicles are evidence of BART's concern for providing a safe and accessible travel environment. The District's adopted *Key Station Plan* identifies strategies for implementing other accessibility improvements as well as those mandated by ADA. An important part of this process is the *BART Accessibility Task Force*, comprised of representatives from the elderly and disability communities. The Task Force meets regularly with BART staff for the purpose of identifying projects which may further enhance system accessibility. The Task Force has had considerable input to BART's *Coordinated Paratransit Plan*. This document, which is updated annually, was submitted to FTA in January 1995. Continued implementation of projects specified by this plan will take place over the next year to bring BART in full compliance with ADA requirements.

TITLE VI

FTA requires that federally assisted benefits and services be made available without regard to race, color, or national origin. FTA also requires that a Triennial Title VI Compliance Report be completed every three years to demonstrate that services are equitably distributed. The last triennial report was completed in FY 96. This submission is pending FTA review and approval. BART's Title VI update is scheduled for completion in FY 99.

STATION ACCESS

Station accessibility improvements have consistently proven to be effective for making BART more user-friendly, thereby supporting increased ridership. Activities in FY 96 have addressed station access on a number of fronts as discussed below:

Parking

As of May 1996, 26 of BART's 36 stations had parking facilities, totaling 37,474 spaces. BART added 4,013 new parking spaces to rail stations in FY 96 as a result of the opening of two new stations, North Concord/Martinez and Colma (Figure 1-3). Express Bus Park/Ride lost 200 spaces, due to the closure of the West Pittsburg facility when the North Concord/Martinez Station opened in December 1995. The remaining three Express Bus Park/Ride facilities have a total of 497 spaces.

Congestion Management

BART's congestion management planning focused on developing alternatives to single-occupancy vehicle access to and egress from BART stations. The District was active in assisting large Bay

Area employers in developing commute alternatives for their employees. BART also received funding in FY 96 to replace and provide additional station bicycle lockers. Coordination efforts with local bus operators have resulted in better connectivity between BART and other transit modes.

In FY 95, BART received funding from Caltrans to provide additional train service as a mitigation measure for relief of freeway traffic congestion due to construction in the vicinity of the I-680/24 interchange. This service, which began in July 1995, consists of two trains during the morning commute between Concord and South Hayward stations, with the reverse of this service provided during the afternoon peak. Caltrans is also funding the leasing and operation of property for the addition of 590 *temporary* parking spaces adjacent to Pleasant Hill Station. This additional train service is scheduled to be eliminated when the Dublin/Pleasanton line opens in late 1996.

As part of construction mitigation in the I-80 corridor, Caltrans also provides funding for *JX* express bus service. This service operates weekdays during peak commute hours between El Cerrito del Norte Station and Pinole and Hercules.

Access Planning Activities

BART formulated an access evaluation process in FY 96 as part of developing the *Comprehensive Access Strategy Plan* for all stations. This evaluation process involves station specific Geographic Information System (GIS) data, other key access criteria, and site-specific field observations. The District now has a consistent method to assess station performance, test potential access strategies, and implement a recommended access plan for each station to improve how BART customers get to and from stations and to increase ridership. Beginning in FY 97, the *Access Strategy Plan* will assist in identifying capital program priorities.

GOAL 3
Empower Employees to Function as Owners of the BART Organization

The quality of service as experienced by BART's customers is a direct reflection of the people who deliver it. For this reason, programs to promote professional development are an important part of how BART seeks to improve its service. Specific standards have been developed for training managers, supervisors, and front-line employees. Due recognition is given with regard to employee performance, suggestions, service history, and attendance records.

The District has undertaken two major initiatives to empower the BART workforce, both of which started in 1995. The Joint Labor Management Committee (JLMC) is a 32-person committee representing union and management. The goals of the JLMC are to make organizational decisions and recommendations using a collaborative model. Sample processes utilized by the JLMC are interest-based problem solving and consensus.

The other initiative, referred to as *IT,* focuses on the BART management team. The effort is to eliminate or redesign processes that hinder the effective delivery of customer services to both the internal customer, BART employees, and the external customer, BART riders.

Both projects are long-term initiatives and share many common features, including customer service, empowerment of employees, and stewardship. While major milestones have been achieved in the last 12 to 14 months, it is anticipated that this multi-year program will require ongoing effort in order to realize permanent cultural change.

GOAL 4

Provide an Environment Free of Impediments to Opportunities for Employees and Disadvantaged Business Enterprises, and One Which Encourages Cooperation and Develops an Organizational Team of Highly Motivated Staff

Related to empowering employees are programs to promote career development within the organization. Consistent with current FTA regulations, from which BART's objectives were developed, efforts focus on promoting disadvantaged business enterprise (DBE) participation and equal employment opportunities.

CAREER DEVELOPMENT

BART conducts Career Development workshops on a quarterly basis. The District's Shadow and Educational Assistance Programs supplement these workshops. The Joint Labor Management Committee and its creation of linchpin committees at worksites are continuing efforts to involve employees in the making of business decisions and working relations. The *IT* program is also contributing to empowering employees in the decision making process and has contributed to the elimination or streamlining of some management systems, resulting in increased efficiencies.

DBE PARTICIPATION

BART has a current objective to achieve 21% disadvantaged business enterprise participation for all District contracts determined to have disadvantaged business enterprise opportunities. During the first three quarters of FY 96, actual DBE participation on a contract-dollar basis was 22.6% for all District contracts. Outreach activities, including trade fairs and the expansion of the Regional Transit Association's DBE directory are continuing, and technical assistance is provided on an ongoing basis to interested participants in the DBE process.

EQUAL EMPLOYMENT OPPORTUNITIES

Activities are guided by FTA and BART policies with regard to job representation by women and minorities. In FY 96, resources were allocated to conduct recruitment and focused on identifying

qualified applicants for achieving specified targets. Staff resources were also strengthened with respect to goal monitoring and staff performance evaluation. As of March 31, 1996, the District has 352 job opportunities for current employees through promotions and for outside applicants. Of this total, 114 positions were filled by targeted placements. This is 70% of FY 96's objective of 163 targeted placements..

GOAL 5
Develop BART Services and Facilities to Expand District Markets and Capture New Revenue Sources

Central to promoting use of the BART system and its expansion plans is the Bay Area market for its service. Key questions in this regard are:

- How many people currently use the system?
- How do current riders rate BART service?
- Why are more people not using the system?
- What opportunities are there for increasing ridership?

THE MARKET FOR BART SERVICE

Historically, the market for BART service has grown in step with changes in population and employment, and the cost and ease of BART travel relative to the automobile. The highly congested and constrained Transbay Corridor is, perhaps, the best example of this relationship where BART's market share of Transbay travel exceeds 50% during peak commute hours.

The period from the mid-1970s through the mid-1980s shows ridership gains on the order of 7.1% annually (Figure 2-3). Maturation of BART's market, coupled with continued decentralization of the Bay Area's population and employment, has resulted in considerably slower growth since then. There is also some evidence supporting the notion that the substantial one-time ridership gain as the result of the October 1989 Loma Prieta Earthquake was at the expense of what would have normally occurred at a slower rate through the early 1990s.

Since FY 90 and prior to the April 1, 1995 fare increase, BART ridership has been virtually flat. During this same period of time and beginning in the third quarter of FY 91, the full force of the national recession hit the California economy (Figure 2-4). The loss of jobs due to the recession and closure of Bay Area military bases undermined growth in BART's commute ridership. Additionally, the recession had a direct impact on use of dwindling discretionary income. This is reflected in a lower rate of offpeak BART use as well. On a 12-month basis, BART's annual ridership peaked in March 1994 at 73.57 million trips, and, as discussed below, has been between 1.0% to 1.5% below this level since that time.

Figure 2 - 3

ANNUAL RIDERSHIP - FY 73 THROUGH FY 96

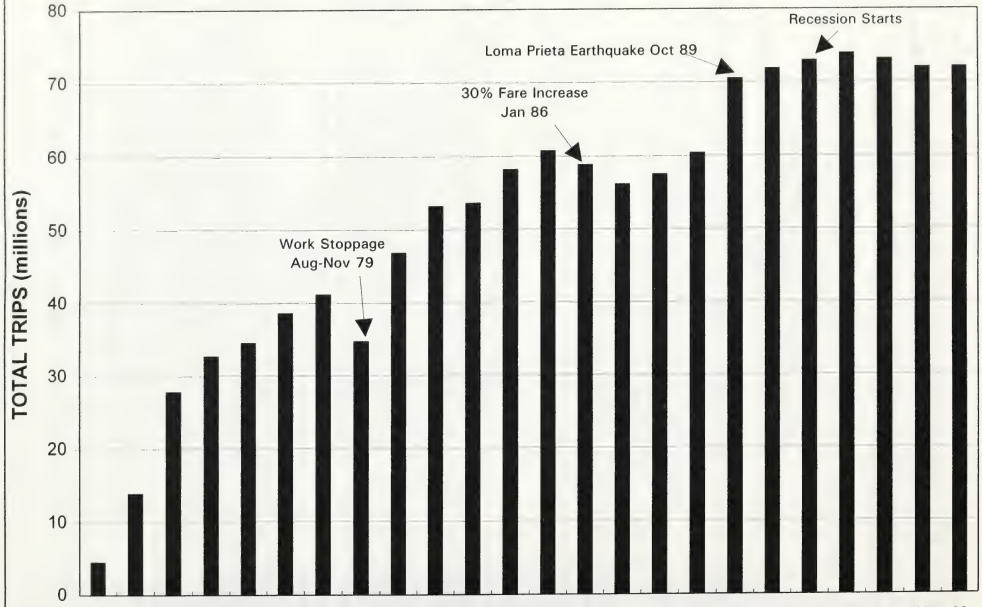
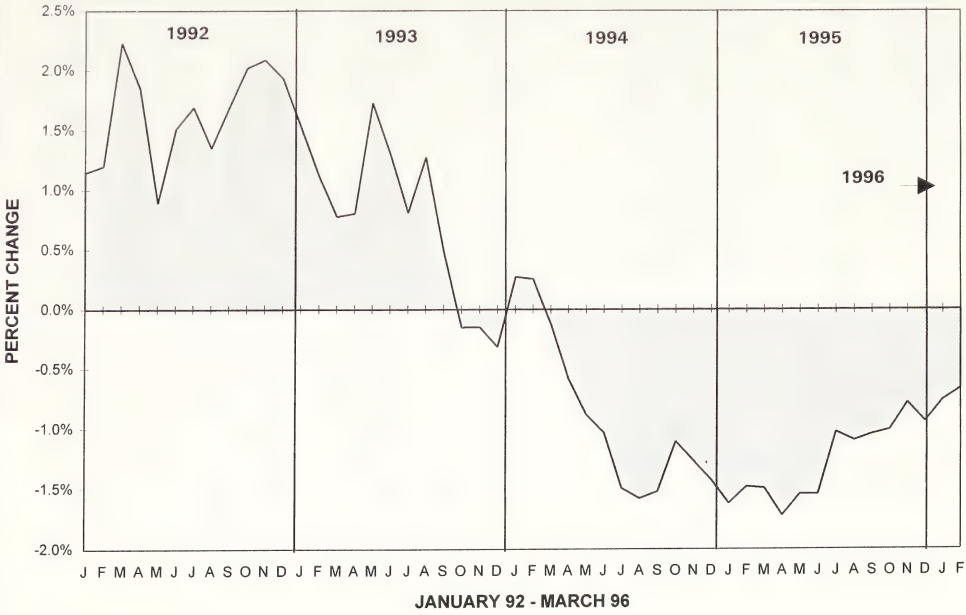


Figure 2 - 4

ANNUAL RIDERSHIP CHANGE vs PRIOR 12 MONTHS


2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
-0.5%
-1.0%
-1.5%
-2.0%
PERCENT CHANGE
1992
1993
1994
1995
1996
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F
JANUARY 92 - MARCH 96

Ridership

Total ridership for the first three quarters of FY 96 was 54,002,051 million trips, 1.4% over a forecast of 53,282,015 million trips. FY 96 actual and budget reflect the impact of the April 1, 1995 and 1996 fare increases. On a weekday basis, the first three quarters of FY 96 translate to an actual average of 248,028 trips versus a budget of 246,764. The delayed openings of both the extensions to North Concord/Martinez and to Colma were countered by the higher than anticipated ridership retention from the fare increases.

It was estimated that the April 1995 and April 1996 fare increases, would result in a 3.4% and 2.5% drop in ridership, respectively (or 6.0% cumulative decrease). Analysis of patronage data suggest that the actual reduction in ridership due to the first fare increase was less than 1%. Average weekday patronage from April 1995 through March 1996 declined 1.2% compared to the same period one year earlier, and total ridership declined 0.85%. That trend was consistent with an already existing decline in patronage from the April 1993 to March 1994 period. The percentage decrease for both average weekday and total patronage was actually greater in the 12 months prior to the April 1995 fare increase than it was after the fare increase. As of early May 1996, it is too early to tell the effects, if any, of the April 1, 1996 fare increase.

MARKETING PROGRAM

Marketing efforts are targeted to increase system ridership. Major emphasis is given to attracting riders to new extension stations and to use BART to ride to non-work destinations during off-peak hours. Campaigns include use of in-station newsletters, flyers, billboards, and print and broadcast media. Direct mailing is also used and targeted at new Bay Area residents.

As part of ongoing efforts to learn more about why people do or do not use the system, BART's Customer and Performance Research Division conducted focus groups and phone surveys in the Spring of 1995. Specifically, the focus groups targeted people who had either stopped or decreased their usage of BART. The purpose was to find out why this group of people no longer used BART regularly. The most prevalent reasons were:

- People changed their home or work locations to a place less accessible to BART.
- Other people retired, graduated school, or for other reasons stopped needing to travel on BART.
- BART fares should better reflect the value received. Customers stated that they would be willing to accept the higher fare levels if they felt were getting their money's worth for the service provided. Complaints centered on escalator and ticket machine reliability, general deterioration of the BART system, train crowding, and dissatisfaction with personnel.

Other reasons commonly mentioned by people who have reduced or stopped their BART usage were: BART travel takes too long relative to other travel modes; unavailability of parking at BART stations; concerns about service reliability; need to access to a vehicle during the day; and security concerns, particularly among women, and particularly at night in remote locations

While these findings point to reasons much beyond BART's control, they do call out the dynamic nature of BART's ridership. BART needs to constantly replace former customers through aggressive outreach to new residents, new hires, new students, and others for whom transit is a viable option.

BART EXPRESS BUS SERVICE

Efforts to expand BART's markets and tap new revenue sources extend to its express bus service. Since privatization of this part of BART operations in 1988 and route streamlining and schedule coordination with rail, the farebox ratio for express bus service has continued to rise. The express bus farebox ratio stood at 8.5% in FY 88 compared to FY 96's level of 19.8%.

PHASE I RAIL EXTENSIONS

Rail extensions represent the largest effort for penetrating new markets. During FY 96, the first two stations of BART's Phase I extensions program opened in Contra Costa and San Mateo counties. Additional stations in Alameda and Contra Costa counties are scheduled to open in FY 97.

Pittsburg/Bay Point Extension

The 7.0 mile, two-station extension to Pittsburg/Bay Point is in its sixth year of construction. The first 2.2 mile segment to North Concord/Martinez Station opened on December 16, 1995. The remaining 4.8-mile segment to Pittsburg/Bay Point Station is scheduled to open in Fall 1996, providing a valuable transit link to this high growth area of eastern Contra Costa County.

Dublin/Pleasanton Extension

The 13.5 mile, two-station extension to Dublin/Pleasanton is also in its fifth year of construction, and is scheduled to open in late 1996. This is the longest of BART's phase I extensions, and will add a new route to the system. Implementation of a West Dublin Station, originally part of this extension but later cut due to a funding shortfall, is pending per availability of additional funding. A West Dublin Station is identified in BART's Capital Improvement Program (CIP) in the District's *Track Two* programs.

Colma Extension

The 1.6 mile extension south of Daly City to Colma Station took five years to complete, and opened on February 24, 1996. BART has entered into a special revenue/cost sharing agreement

with the San Mateo County Transit District (SamTrans) to provide service within San Mateo County, which is not a full participant in the BART District.

San Francisco Airport Extension

The draft environmental documentation for this extension was completed in FY 95. In April 1995 the boards of directors of BART and SamTrans adopted Locally Preferred Alternative VI. The 7.9 mile extension south of Colma Station calls for the construction of four stations: South San Francisco, San Bruno, one beneath the soon-to-be constructed international terminal building at San Francisco Airport, and an end-of-line station in Millbrae.

Events in Summer 1995 resulted in BART investigating an aerial design option to the portion of Alternative VI south of Angus Avenue in San Bruno (the Alternative VI tunnel). A Focused Recirculated Draft Environmental Impact Report/Supplement #2 Draft Environmental Impact Statement was prepared and presented an evaluation of the potential impacts of design options. It is anticipated that BART will receive a full-funding grant agreement in mid 1996 for this extension.

Warm Springs Extension

No further progress on this remaining phase I extension has been made since 1993 when Final Design work ceased due to pending litigation and a funding shortfall. This extension is identified in BART's CIP under its *Track One* capital program.

OTHER RAIL EXTENSIONS

In addition to the Phase I Extensions Program are other BART-sponsored rail projects. These are as follows:

Oakland Airport Connector

BART, in partnership with the Port of Oakland and AAI Corporation, was selected in September 1992 as a finalist in the FTA competition for a *Suspended Light Rail System Technology (SLRT) Pilot Project* demonstration grant. The *Feasibility Study* was submitted to FTA in September 1993. The *Oakland Airport Connector Project Update Study* was completed in December 1993. This study identifies conceptual engineering and environmental work for this extension, as well as route/mode options and environmental issues. This rail extension is identified in BART's CIP under the District's *Track Two* capital program and funding is being sought for implementation.

West Contra Costa Extension

In October 1992, the *West Contra Costa Alignment Alternatives Study* identified the four most promising BART alignments within the I-80 corridor between El Cerrito del Norte and Richmond stations and Crockett. In FY 96, BART continued to work with local communities and agencies on

this extension. Future funding in support of planning activities for this Phase II extension has yet to be identified.

Pittsburg/Antioch Extension

BART has been active in three ongoing studies in this corridor. The first study will result in environmental clearance for the widening of Highway 4 between East Bailey Road and Railroad Avenue, and will include a high-occupancy vehicle (HOV) lane and a median for BART to extend to Railroad Avenue. Using the information developed in this study, BART will prepare a Supplemental Environmental Impact Report for the Pittsburg-Antioch Corridor, addressing the BART extension, station siting, and interchange at Railroad Avenue. Beyond Railroad Avenue, CCCTA and the East County Fee Authority have initiated a study to consider transportation improvements along Highway 4 to Highway 160 and eastern Contra Costa County, including the BART extension.

Commuter Rail

During FY 95, BART conducted a feasibility study for implementing commuter rail service in the region. The results included the development of a comprehensive service plan for a proposed 200-mile commuter rail system serving five counties in the Bay Area and the Central Valley. Phasing options and service alternatives were developed in response to institutional limitations and implementation issues. It is anticipated that once funding is identified, five-county commuter rail service could be implemented. Commuter rail service is identified in BART's CIP under its *Track Two* capital program.

As part of the FY 96 program, BART has been working with local, regional, and state transportation agencies and officials to advance commuter rail service. This work effort has included developing a comprehensive regional passenger rail service plan for the Capital Corridor rail route from Auburn, Sacramento, and Suisun City to Oakland/San Francisco and San Jose.

OTHER MARKET & REVENUE EXPANSION EFFORTS

In addition to rail extensions, BART has continued to seek ways to expand its market and revenue base, as discussed below. Improvements discussed under Goal 1 are prime examples of this, where providing sufficient parking and coordinating services with other transit providers, for example, are critical prerequisites to expanding and tapping new markets.

Joint Development and Concessions

Continuing in FY 96, were joint development efforts between BART and local agencies for high-density, multi-land use developments of property adjacent to BART stations. BART executed a long term ground lease with Bridge Housing for property at the new Castro Valley Station. This lease calls for a 96-unit residential complex which will also house a BART Zone Command Police

Facility. Negotiations were initiated and/or continued with developers for mixed-use projects at El Cerrito del Norte, El Cerrito Plaza, Fruitvale, Hayward, and Pleasant Hill stations. Additional planning studies continued and/or were initiated for potential development projects at MacArthur, Union City, Richmond, and Pittsburg/Bay Point stations. The District also leased space in stations to private vendors for concessions.

Advanced Technology

BART continues to investigate ways to enhance its operations and revenue base through technological innovation. The Advanced Automatic Train Control (AATC) project is part of this effort, and would increase system capacity from the current system capability of 26 trains per hour in one direction to 30 or more. In May 1996, BART and Hughes Aircraft Company demonstrated the ability of the AATC system to control two trains moving simultaneously on the Hayward Test Track. The program is now proceeding with the development of equipment to be demonstrated between Lake Merritt and Fruitvale stations. Other advanced technology initiatives being pursued by BART focus on enhancing the power distribution capacity of the traction power system and improving the efficiency of maintenance related activities. A primary focus of this latter initiative is to increase the mean-time-between service failures of the revenue fleet.

Progress in other areas of technological advancement includes the District's joint effort with MFS Network Technologies for developing and installing a fiber-optic line conduit system within BART's right-of-way including the Transbay Tube. MFS Network Technologies will generate revenue by marketing and operating the conduit system for occupancy and use by private telecommunication companies. BART is to receive 91% of gross revenues from the joint venture. A second project BART has with MFS Network Technologies is the development of a new internal telecommunications system for the District. This *BART Telesystem* is to be paid for by revenues generated from the *Conduit System* project. Agreements between BART and MFS Network Technologies for this work were executed during FY 96. Design phases for the BART Telesystem and Conduit System were initiated.

Additional efforts in the area of advanced technology focus on improving system access while addressing ways to meet state and federal clean air standards. The San Francisco Bay Area Station Car Demonstration will deploy 40 electric vehicles at four BART stations for the purpose of demonstrating the station car concept. Station cars are zero-emission vehicles used by transit patrons for enhanced access to stations on the origination end of the trip or for improved egress from the station to their final destination. The District has contracted with Green Motorworks of Southern California to provide vehicles and fleet management services. The manufacturer of the vehicles is the Personal Independent Vehicle Company of Oslo, Norway. The demonstration was inaugurated in October 1995 at the Ashby station by the King and Queen of Norway. The District's first station car customer is Sybase, Incorporated, a major employer in the City of Emeryville. Sixteen employees share the use of nine vehicles at the work end of their commute. Sybase pays $100 per month for each car and BART provides preferred parking next to the station entrance and the electricity for the recharging of the vehicles. These projects are identified in BART's CIP under research and development.

GOAL 6

Secure and Manage Funds Necessary to Maintain and Expand the System and Operate BART According to Fiscally Sound Business Practices

Throughout its history, BART has taken prudent actions to ensure that fiscal constraints do not compromise the organization's ability to deliver its full service schedule. The recent recession has placed even greater pressure than in the past to find innovative ways to support the level of operations and maintenance from BART's two principle sources of revenue: passenger fares and sales tax revenue. This will become an even greater challenge in the future, as more extension stations come on line without any expansion in BART's sales tax base.

FY 96 OPERATING BUDGET PERFORMANCE

BART's $244.11 million revised operating budget for FY 96 is summarized in Figure 2-5, along with the adopted budget of $240.11. This income and expense statement reflect policy choices among management objectives. The approach underscores the importance of making tradeoffs and establishing priorities for resource use by emphasizing results and strengthening accountability. The FY 96 revised budget reflects BART's major themes consisting of customer service, extensions support, system renovation, operating efficiencies, and employee development. A key budget consideration in FY 96 was the implementation of the second of three consecutive fare increases, as part of the fare package adopted by the BART Board in January 1995.

Adopted Fare Package

On January 26, 1995, the District Board of Directors adopted a fare increase package consisting of three consecutive fiscal year increases. This series of increases is forecast to generate additional revenue of $100 million, funds needed to finance system renovation, extensions' operations, and ADA service.

The second of these increases became effective April 1, 1996 and raised adult fares by approximately 13% from a base of 90¢ to $1.00. Discounts for seniors, children ages 5-12, and persons with disabilities are provided at 75% of the full adult fare. BART express bus fares were also increased by 13%. The resulting fare components as of April 1, 1996 are shown in Figure 1-6. The third increase will occur on April 1, 1997, at 11.4%. As part of the January 1995 adopted fare package, the BART Board also made a commitment not to raise fares in FY 98.

Passenger and Other Operating Revenues

Net passenger fare revenue was 0.2% unfavorable to the revised budget for the first three quarters of FY 96. Actual fare revenue amounted to $89.29 million versus a revised budget of $89.44 million. Revenue from sources other than passenger fares for the first three quarters of FY 96 amounted to $9.70 million, 2.0% above a revised budget of $9.51 million. Total net revenue from

Figure 2 - 5

FY 96 BART OPERATING BUDGET

All Figures in Thousands

	ADOPTED	REVISED
REVENUE		
Net Rail Passenger Revenue	122,020.0	124,020.0
Net Express Bus Passenger Revenue	1,214.3	1,214.3
ADA Service Passenger Revenue	119.8	119.8
Total Net Passenger Revenue	**123,354.1**	**125,354.1**
Interest Revenue	7,190.2	7,190.2
Other Operating Revenue	3,986.8	3,986.8
Subtotal Non-Fare Revenue	**11,177.0**	**11,177.0**
Total Operating Revenue	**134,531**	**136,531**
EXPENSE		
Net Labor	168,483.0	168,483.0
Express Bus Service	6,934.0	6,934.0
Shuttle Service	95.3	95.3
Purchased Transportation	1,654.4	2,520.7
ADA Service	2,520.7	1,654.4
Power, Traction & Station	21,863.8	21,863.8
Other Non-Labor	38,560.6	42,560.6
PERS	0.0	0.0
Total Operating Expense	**240,111.8**	**244,111.8**
OPERATING DEFICIT	**(105,580.7)**	**(107,580.7)**
FINANCIAL ASSISTANCE		
Sales Tax (BART 75%)	118,480.9	120,480.9
Property Tax	13,528.7	13,528.7
ADA Assistance	701.7	487.3
TDA State Assistance	595.2	809.6
San Mateo County	1,113.0	1,113.0
Cost Allocation Plan Reimbursement	2,248.3	2,248.3
Total Financial Assistance	**136,667.8**	**138,667.8**
DEBT SERVICE & ALLOCATIONS		
C-Car Revenue Bond Debt Service	(19,818.8)	(19,818.8)
New Bond Debt Service	(9,020.0)	(9,020.0)
Other Capital Allocations	(2,248.3)	(2,248.3)
Miscellaneous Other	0.0	0.0
Total Debt Service & Allocations	**(31,087.1)**	**(31,087.1)**
FINANCIAL RESULT	**0.0**	**0.0**

these sources amounted to $98.99 million actual versus $98.95 million budgeted, slightly favorable to the revised budget.

Labor and Non-Labor Expense

Net labor expense during the first three quarters of FY 96 came in 0.6% over the revised budget. Actual labor expense amounted to $125.52 million versus $124.78 million budgeted. BART's FY 96 staffing budget consisted of 2,735 full-time equivalent operating employees (FTEs) and 364 FTEs for capitalized and reimbursable labor. As May 1996, BART had 140 FTE vacancies out of a total of 3,099 authorized FTE positions.

Non-labor expense for the first three quarters of FY 96 was 10.0% favorable, at $49.65 million actual compared to a revised budget of $55.16 million. This is due primarily to favorable power expense; as well as for rental and maintenance contracts and professional and technical assistance. For the first three quarters of FY 96, total operating expense of $175.17 million came in 2.7% under a revised budget level of $179.94 million.

Privatization

Efforts to achieve economies of scale have led BART to privatize some functional aspects of its operations, where costs of outside services are less than could be achieved by the District. On a contract dollar basis, 4.3% of BART's revised operating expense budgeted for FY 96 went for services provided by outside vendors. BART's $6.9 million budgeted expense for Laidlaw Transit operated express bus service accounted for 66 % of all District privatized expense budgeted in FY 96, at $10.5 million. Other functional areas which have been privatized include traction motor overhaul, transit vehicle wheel reconditioning, roller bearing rehabilitation, and vehicle seat cleaning.

Financial Assistance

Trends in the Bay Area economy indicate much improved economic conditions relative to one or two years ago. Increased consumer spending is reflected in FY 96 sales tax revenue projected to be 6.8% above FY 95's actual. This is the largest year-to-year gain since FY 90, before the full force of the national recession hit California. BART sales tax revenue for the first three quarters of FY 96 is 2.4% favorable to the revised budget, at $94.53 million actual versus a revised budget of $92.33 million. Property tax receipts were 6.7% unfavorable to the revised budget at the end of the third quarter of FY 96. Actual receipts came in at $6.68 million versus a budget of $7.16 million.

Allocations From Operating Sources

Allocations from operating sources are used for servicing long-term debt and to supplement capital funds. In FY 96, debt service for the 1990, 1991 C-car bonds and latest bonds for system renovation was on target at $21.42 million. Through March 1996, the cost allocation plan required a deduction of $1.27 million, 32.9% under a revised budget of $1.69 million. Total allocations

from operating sources were 3.5% under budget. Actual allocations were $22.70 million versus a revised budget of $23.54 million.

Net Operating Result

For the first three quarters of FY 96, both revenues and financial assistance were slightly above the revised budget (+$0.04 million and +$0.05 million, respectively). Operating expense (- $4.77 million) and allocations (- $0.40 million) were also favorable to the revised budget, resulting in a net operating result of positive $5.26 million.

Farebox Ratio

All of BART's farebox ratios came in over the revised budget for the first three quarters of FY 96. The farebox ratio for rail operations was 52.8%. That for BART express bus service was 19.1%. Systemwide, 51.0% of operating expense was recovered through passenger fares.

Operating Ratio

BART's operating ratio, which is equal to all sources of revenue (excluding financial assistance) divided by total operating expense, was 56.5% for the first three quarters of FY 96. This compares favorably to a revised budget target of 55.0% (Figure 2-2).

Rail Cost Per Passenger Mile

The rail cost per passenger mile for the first three quarters of FY 96 was 24.4¢, compared to a revised budget amount of 25.2¢ (Figure 2-2). Rail operating expense for the first three quarters of FY 96 came in 2.8% below the revised budget. This favorable financial performance was aided by actual passenger miles slightly (0.4%) above forecast, and rail operating expense coming in 2.8% under the revised budget.

CAPITAL REQUIREMENTS AND PROGRAM ADVOCACY

Increased competition for limited local, state, and federal funding has resulted in BART taking an aggressive role in advocating and securing resources for implementing needed capital improvements, including system renovation of the 24-year old core system. BART's capital projects and associated financial requirements are fully documented in the District's 1996 *Capital Improvement Program*, a companion document to the SRTP.

BART's Department of Capital Development and Control is responsible for development of the CIP and for advocacy of grant funding to support the program. Promotion of the District's legislative agenda for funding support is provided by the Department of Government and Community Relations.

GOAL 7

Take the Leadership Role in Integrating Various Features of Regional Transportation Systems in Policy, Finance, and Operations

BART's role in the region, by its very nature, is to join places by providing quality, car-free transportation. BART, however, cannot serve all places directly and is, therefore, only as strong as its ties to other modes of transportation. With just 75 miles of mainline double-track currently and 18 more miles to be added by the end of 1996, BART provides a common thread linking over a dozen local and long-distance ground transportation providers. With future connections to both San Francisco and Oakland International Airports, this number quickly multiplies by adding all the airlines serving these two regional facilities. Access to the system is the key, regardless of mode. For the region to maximize its investment in BART and in all forms of public transit, and to achieve clean air standards, it is of paramount concern that the Bay Area's transit systems function as an integrated whole to promote increased ridership and reduced automobile dependence.

The importance of system integration has led BART to implement projects which make using transit easier. As discussed under Goals 1 and 2, improvements such as coordinating schedules, fares, transfers, providing better information for inter-operator connections, and improving station access serve to promote use of all transit systems. Additionally, as discussed under Goal 5, continued research and development for electric cars will lead to more efficient use of automobiles for local travel, including access to BART and other forms of transit.

GOAL 8

Build Constituencies at All Levels of Government to Support The BART Organization and Its Programs

As a publicly funded agency, and one whose Board of Directors is locally elected, BART is well positioned to receive and respond to public concerns regarding the system's current status as well as its future.

In addition to communication via Board-related processes, BART has implemented important programs aimed at educating and promoting dialogue between the organization and interested parties, be they government bodies, individuals, special interest/professional groups, or businesses.

BART's Department of Government and Community Relations oversees the District's legislative program, community-based outreach, and advocates implementation of District initiatives. A primary purpose of these functions is to secure the necessary funding to support BART operations and the District's capital program. In addition, Community Relations staff develop partnerships and pursue special projects with civic, community, business, government, police, and environmental groups in the Bay Area. These programs are designed to foster support of the BART organization,

enhance ridership, and respond to customer needs. Specific objectives are identified in the *Action Plan for Systemwide Community Relations*.

The BART Accessibility Task Force advises the District on issues relating to system accessibility. Dialogue between BART and local communities is also facilitated through the Consortium Service Advisory Committee, which advises the District on matters relating to ADA paratransit service.

BART also works closely with the communities located near rail extension construction sites. BART *Community Service Centers* are located in Concord, Dublin, and Colma, where full-time staff are available to provide assistance with problems, complaints, and concerns. The Concord center is scheduled to close in December 1996, in conjunction with the opening of the Pittsburg/Bay Point Station. Special telephone *Hotlines* have been established for each of the *Community Service Centers*. Each center also has available printed materials, video and slide presentations, station models and renderings, maps, and portable exhibits.

CHAPTER 3

RIDERSHIP FORECAST & PLANNED SERVICE

BART's ridership forecast is the key driver in the formulation of service plans and underlying required capital program. Accordingly, this chapter begins with a discussion of factors which influence BART ridership. Regional population and employment growth is presented first, followed by a discussion of additional factors which impact BART ridership. Within this context, the ridership forecast for the ten year period is presented, followed by a description of the rail service plans developed to accommodate this growth which includes new extensions. The last two sections of this chapter describe service plans for BART express bus and ADA paratransit.

REGIONAL GROWTH

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are consistent with the Association of Bay Area Government's (ABAG) population and employment forecasts as published in its *Projections '96 Update*, and the Metropolitan Transportation Commission's (MTC) regional travel model. ABAG's projections are summarized below and in Figure 3-1.

Population

The nine-county regional population base is forecast to grow 1.2% per year from 6.49 million people in 1995 to 7.30 million by 2005. The three-county BART District is also forecast to increase 1.2% annually, from a base of 3.01 million people in 1995 to 3.37 million in 2005. With the recently implemented extension of BART service south of Daly City to Colma, the Peninsula travel market plays a more prominent role in District affairs. San Mateo County's 1995 population is 0.70 million people and is forecast to grow 0.8% annually to 0.75 million by 2005.

Employment

In contrast to 1.2% regional population growth, ABAG's *Projections '96* for employment suggests that there will be considerably higher growth in jobs, at a 1.8% annual rate. Demographic shifts and *in-commuting* from areas outside the region, primarily from the Central Valley, are the key reasons for the disparity between the growth in population and jobs. Employment in the nine-county Bay Area is forecast to grow from a base of 3.03 million jobs in 1995 to 3.59 million in 2005. The three BART counties are expected to experience slightly lower growth than for the region as a whole, at 1.7% per year, from a base of 1.44 million jobs in 1995 to 1.69 million in 2005. The addition of San Mateo County increases the District's 1995 employment base by 0.32 million jobs. San Mateo County's employment outlook includes 1.9% annual growth, to 0.38 million jobs by 2005.

Figure 3-1

REGIONAL POPULATION FORECAST

County	1995	2000	2005	%/YR
Alameda	1,364,600	1,453,000	1,518,700	1.1%
Contra Costa	882,700	962,900	1,059,500	2.0%
San Francisco	759,900	780,400	789,100	0.4%
District Subtotal	**3,007,200**	**3,196,300**	**3,367,300**	**1.2%**
San Mateo	696,450	727,300	754,750	0.8%
4-County Subtotal	**3,703,650**	**3,923,600**	**4,122,050**	**1.0%**
Santa Clara	1,611,200	1,719,150	1,790,050	1.1%
Marin	245,600	255,650	263,250	0.7%
Solano	379,350	423,300	472,200	2.5%
Napa	121,150	132,700	138,800	1.5%
Sonoma	432,000	476,900	509,900	1.8%
Region Total	**6,492,950**	**6,931,300**	**7,296,250**	**1.2%**

REGIONAL EMPLOYMENT FORECAST

County	1995	2000	2005	%/YR
Alameda	608,770	651,500	712,420	1.7%
Contra Costa	298,420	335,800	373,700	2.5%
San Francisco	534,610	567,920	600,130	1.2%
District Subtotal	**1,441,800**	**1,555,220**	**1,686,250**	**1.7%**
San Mateo	318,350	355,660	377,990	1.9%
4-County Subtotal	**1,760,150**	**1,910,880**	**2,064,240**	**1.6%**
Santa Clara	827,350	887,160	948,000	1.5%
Marin	104,870	116,790	125,620	2.0%
Solano	121,890	139,290	163,880	3.4%
Napa	50,000	56,870	68,770	3.8%
Sonoma	164,030	187,810	215,130	3.1%
Region Total	**3,028,290**	**3,298,800**	**3,585,640**	**1.8%**

Source: *Projections '96*, Association of Bay Area Governments

ADDITIONAL RIDERSHIP FACTORS

Other key assumptions used to forecast BART ridership for the current SRTP ten year period include the impact of higher fares and related demand elasticities, travel times for BART versus automobile, the schedule for starting service on extensions and subsequent ridership phase in, and system access.

BART Fares

The baseline ridership forecast consists of annual and average weekday trips for each fiscal year in the current ten year planning period. This forecast includes the impact of the January 1995 adopted fare package. This includes the following key components, the first three of which have already been implemented.

- 15.0% fare increase, effective April 1, 1995.
- Reduction in discounts from 90% to 75%, effective April 1, 1995.
- 13.0% fare increase, effective April 1, 1996.
- 11.4% fare increase, effective April 1, 1997.
- No fare increase in FY 98.

Load Factors

BART's current policy with regard to load factors is to provide capacity where possible such that the maximum average load factor for discretionary trains (i.e., those trains which BART can effectively alter) is 1.15 during peak periods and not more than 1.00 in the offpeak. This does not include the average for all peak period trains, as experienced by riders, but only for discretionary trains, and is used for scheduling purposes.

This SRTP assumes that sufficient peak period capacity would be provided to maintain actual current load factor conditions for all peak period trains throughout the ten year planning horizon. This means that, on typically, load factors would not go above 1.35 in the peak hour, shoulder period load factors would average approximately 1.15, and offpeak service load factors would average no higher than 1.00.

Travel Times

The faster BART run times which took effect in June 1992 have been carried forward through the ten year planning period. Degradation of auto travel times is also assumed, reflecting increased highway congestion as growth in demand outstrips programmed highway improvements. This is consistent with the MTC travel model.

Extensions Service

BART's 1996 SRTP ridership and financial forecasts are based on the schedule as of Spring 1996 for the opening of new rail stations. These include Pittsburg/Bay Point Station in Fall 1996 and Castro Valley and Dublin/Pleasanton stations in late 1996. The first two extension stations, North Concord/Martinez and Colma, are in operation. The extension of rail service south of Colma Station, consistent with the Locally Preferred Alternative VI Aerial Design Option, is assumed to open in mid FY 01.

The 1996 SRTP ridership and operating financial forecasts reflect only the above rail extensions to the core system, and do not include operations of any other rail facilities and services identified as Priority 1 and Priority 2 projects in BART's unfunded *Track Two* Capital Improvement Program. These projects include the West Dublin Station, Warm Springs Extension, West Contra Costa County Extension, extensions to points further east in Contra Costa and Alameda counties, and Commuter Rail. The District will continue to seek funding for these projects, and will include corresponding operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

It is assumed that the relationship between the supply and demand for BART station parking remains relatively unchanged. As identified in Figure 3-2, BART plans call for the addition of 11,611 parking spaces at stations within the current ten year planning period. Of this number, 11,111 parking spaces are for extension stations and 500 are for expansion of core system parking facilities.

It is also assumed that transit services operated by other Bay Area agencies which interface with BART will approximate current levels. BART has already discontinued portions of BARTexpress bus routes which formerly ran parallel to rail extensions. These routes will continue to be adjusted as each extension station opens for revenue service (refer to *Express Bus Service Plan*, below).

BASELINE RAIL RIDERSHIP FORECAST

As shown in Figure 3-3, BART's baseline ridership forecast calls for patronage to increase from 71.10 million trips in FY 96 to 100.63 million trips in FY 06. This forecast includes the impact of the January 1995 adopted fare package identified above, and no additional fare increases in subsequent years.

Core System Ridership

The underlying assumption for the baseline ridership forecast is that core system use will grow at a rate of just under 1% annually from FY 97 without any additional fare increases. This represents modest growth and is consistent with past trends relative to growth in population and employment. Note that, as discussed above, District population and employment over the next ten years are forecast to increase annually by an average of 1.2% and 1.8%, respectively. An increase for core system ridership of about 1% annually is, therefore, at the low end of the population and employment growth range.

Figure 3-2

BART PARKING SPACE INVENTORY
PARKING EXPANSION PLANS AT EXISTING & FUTURE STATIONS

EXISTING STATIONS	NUMBER OF PARKING SPACES			
	AS OF JUNE 96	PLANNED FOR FY 97	PLANNED FOR FY 98 - FY 06	TOTAL PROJECTED BY FY 06
SAN FRANCISCO LINE:				
Colma	2,010	0	0	2,010
Daly City	2,228	0	0	2,228
Glen Park	55	0	0	55
West Oakland (a)	414	0	0	414
Subtotal	**4,707**	**0**	**0**	**4,707**
FREMONT LINE:				
Fremont	2,494	0	0	2,494
Union City (b)	1,218	0	0	1,218
South Hayward	1,307	0	0	1,307
Hayward	2,000	0	0	2,000
Bay Fair	1,903	0	0	1,903
San Leandro	1,295	0	0	1,295
Coliseum	1,084	0	0	1,084
Fruitvale (b)	1,103	0	0	1,103
Lake Merritt	241	0	0	241
Subtotal	**12,645**	**0**	**0**	**12,645**
RICHMOND LINE:				
Richmond	796	0	0	796
El Cerrito del Norte	2,516	0	0	2,516
El Cerrito Plaza (c)	766	0	500	1,266
North Berkeley	870	0	0	870
Ashby	607	0	0	607
MacArthur	608	0	0	608
Subtotal	**6,163**	**0**	**500**	**6,663**
CONCORD LINE:				
North Concord/Martinez	2,003	0	0	2,003
Concord	2,518	0	0	2,518
Pleasant Hill (d)	3,245	0	0	3,245
Walnut Creek	2,403	0	0	2,403
Lafayette	1,521	0	0	1,521
Orinda	1,380	0	0	1,380
Rockridge (b)	889	0	0	889
Subtotal	**13,959**	**0**	**0**	**13,959**
EXISTING STATIONS TOTAL	**37,474**	**0**	**500**	**37,974**
EXTENSION STATIONS				
DUBLIN LINE:				
Castro Valley	0	1,125	0	1,125
Dublin/Pleasanton	0	2,619	0	2,619
Subtotal	**0**	**3,744**	**0**	**3,744**
PITTSBURG LINE:				
Pittsburg/Bay Point	0	2,030	0	2,030
Subtotal	**0**	**2,030**	**0**	**2,030**
WEST BAY LINE:				
South San Francisco	0	0	1,337	1,337
San Bruno	0	0	1,000	1,000
San Francisco Airport	0	0	0	0
Millbrae	0	0	3,000	3,000
Subtotal	**0**	**0**	**5,337**	**5,337**
EXTENSION STATIONS TOTAL	**0**	**5,774**	**5,337**	**11,111**
SYSTEM GRAND TOTAL	**37,474**	**5,774**	**5,837**	**49,085**

a. A future parking project is subject to reavaluation and identification of a funding source.

b. No plans are identified for Union City, Fruitvale, and Rockridge stations.

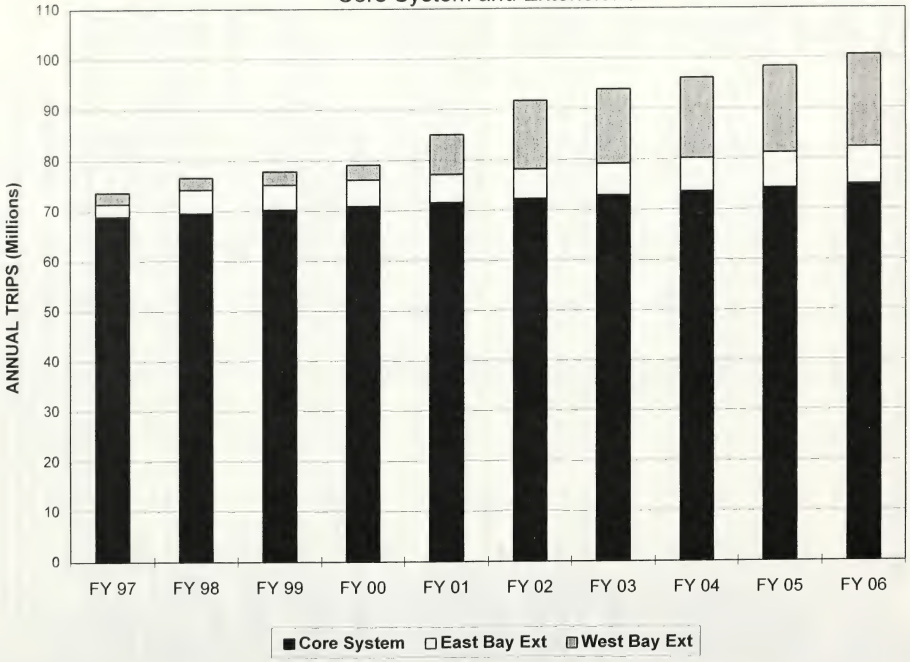
c. Contra Costa County Measure C provides funding for parking expansion in the City of El Cerrito. BART and the City are studying a possible future 500-space parking project at the El Cerrito Plaza Station.

d. Improved parking at Pleasant Hill Station added 581 temporary spaces as a construction mitigation measure during I-680/24 reconstruction. This temporary parking is not reflected in the station total for Pleasant Hill.

Figure 3 - 3

BART RIDERSHIP FORECAST

Core System and Extensions



BART's baseline ridership forecast builds off the FY 96 estimated/actual of 72.11 million trips, which includes the impacts of the 15% fare increase effective April 1, 1995 and the 13% fare increase effective April 1, 1996. With the entire adopted fare increase package phased in by April 1997, and expected erosion of demand, core system ridership is forecast to reach 75.04 million trips in FY 06.

Extensions Ridership

Ridership for extensions, which assumes the service start dates identified above, is consistent with the MTC regional travel model and San Francisco Airport Extension environmental documentation for Locally Preferred Alternative VI Aerial Design Option. It is forecast that in FY 06, the nine extension stations will bring 25.59 million new trips to the BART system. This is 34.1% more than the forecast for the core system in the same fiscal year. This extensions ridership figure represents system use that would otherwise not have occurred on the core system via access/egress from any of the 34 existing stations. The following summarizes the incremental ridership for the Phase I rail extensions:

Alameda and Contra Costa County Extensions: Along with the opened North Concord/Martinez station, the opening of Pittsburg/Bay Point, Castro Valley, and Dublin/Pleasanton in FY 97 is forecast to bring 2.50 million new trips to BART in FY 97. This is forecast to increase to 4.70 million new trips in FY 98 and reflects a full year of operation for all East Bay extension stations. Incremental ridership for these four stations is forecast to increase an average of 5.7% annually to 7.32 million trips in FY 06.

San Mateo County Extension: Colma Station is forecast to add 2.29 million new trips to BART in FY 97. In FY 00, the last full year before the start of service to San Francisco Airport and Millbrae, Colma Station ridership is forecast to grow to 3.00 million trips. In FY 06, the five Peninsula extension stations south of Daly City are forecast to add 18.27 million new BART trips.

Systemwide Ridership

By FY 01, the BART system will have 43 stations and 101 miles of double-mainline track. Systemwide ridership is forecast to increase 36.6% from a budget of 73.69 million trips in FY 97 to 100.63 million in FY 06. This 3.5% average annual growth includes the impact of the January 1995 fare increase package.

RAIL SERVICE PLAN

Ridership growth over the next ten years for both the core system and extensions will require a larger fleet, more trains, and more frequent service relative to today's schedule. Figure 3-4 summarizes how BART plans on expanding service to insure that sufficient capacity is available to accommodate the projected 37% gain in ridership, from 73.69 million trips budgeted for FY 97 to 100.63 million trips in FY 06. Key elements of this expansion plan, the details of which are presented below, call for:

Figure 3 - 4

BART SERVICE EXPANSION PLAN

CARS										TRAINS			
FISCAL YEAR	CAR MILES millions	MAXIMUM ONLINE CARS	READY RESERVE CARS	PEAK SERVICE REQMNT	YARD LOGISTICS CARS	CARS IN FOR MAINT	FLEET REQMNT	PLANNED OPERATING FLEET	EXCESS (DEFICIT) CARS	MAX TOTAL TRAINS ONLINE	MAX TBAY TRAINS PER HOUR	MIN TBAY HEADWAY ALLOWED minutes	MIN TBAY HEADWAY NEEDED minutes
96	47.4	443	40	483	8	110	601	640	39	48	18	2.25	3.33
97	56.8	486	33	519	8	112	639	639	0	57	22	2.25	2.73
98	56.8	486	18	504	8	120	632	632	0	57	22	2.25	2.73
99	56.8	493	22	515	8	110	633	633	0	57	23	2.25	2.61
00	57.0	497	28	525	8	100	633	633	0	57	23	2.25	2.61
01	63.2	543	10	553	8	100	661	661	0	75	27	2.00	2.22
02	64.5	555	35	590	8	99	697	697	0	75	27	2.00	2.22
03	65.6	557	32	589	8	100	697	697	0	75	27	2.00	2.22
04	65.6	557	31	588	8	101	697	697	0	75	27	2.00	2.22
05	65.6	557	29	586	8	103	697	697	0	75	27	2.00	2.22
06	65.6	557	28	585	8	104	697	697	0	75	27	2.00	2.22

- Service levels as of June 30 of each fiscal year.
- Service for 1995 & 1996 does not include the two 5-car I680/24 mitigation trains (N. Concord/Martinez - S. Hayward).

- Increasing BART's fleet from 669 vehicles currently to 697 with receipt of 28 more cars as part of the extension to San Francisco Airport.

- Adding 27 trains to BART's peak period schedule, increasing the maximum number of online trains from 48 currently (not including the two temporary I680/24 mitigation trains) to 75, including 1 shuttle train from Millbrae Station to San Francisco International Airport.

- Increasing Transbay service from the current schedule of 18 trains per hour to 27 per hour. This will require reducing the system's minimum scheduled headway capability from two-minutes fifteen seconds currently to two minutes or less by FY 01. This improvement will effectively allow for increasing transbay service to 30 trains or more per hour.

The achievement of this service expansion is predicated on the timely implementation BART's capital improvement program as documented in the CIP. The CIP builds off the operational parameters and requirements presented in this SRTP. Together, these two documents advocate and support BART's grant applications for project funding; system renovation and improvements needed to keep the core system in top condition, complete extensions, and other upgrades/enhancements needed to support expanded operations. The following are some of the highlights from BART's *Capital Improvement Program* to support this expansion (see *CIP* for details):

- Rebuilding of the original 439 A- and B-cars.

- Renovation of stations, including automatic fare collection (AFC) equipment, escalators, and elevators.

- ADA accessibility improvements including other elevator enhancements, parking, and signs.

- Renovation and replacement of communications and train control systems, including implementation of the advanced automatic train control system (AATC) to support two-minute minimum scheduled headway service.

- Renovation of shops and yards, and replacement of maintenance and other essential equipment.

- Completion of the Pittsburg/Bay Point, Dublin/Pleasanton, and San Francisco International Airport extensions, and support of others, including extensions to Warm Springs, Oakland Airport, regional Commuter Rail, and BART's Phase II extensions program.

- Completion of additional projects to support increased capacity, including additional vehicles, expansion of maintenance shop capacity, increased traction power, train control upgrades, reliability improvements, improved bus transfer facilities at stations, and other station access improvements.

- Completion of BART's *Seismic Retrofit Program*.

- Continued research and development efforts for the purpose of seeking ways to improve operations through technological innovations and advancements.

Fleet Management Plan

BART is required to submit a Fleet Management Plan (FMP) to the Federal Transit Administration (FTA) annually. The purpose of the document is to define the current and projected BART revenue vehicle fleet size and operating spare ratio. It includes a description of revenue service planned to accommodate extensions and forecast growth in patronage, as well as an assessment and projection of needs for vehicle maintenance. The same rail service plans and operating assumptions were developed for both the FMP and the SRTP. Detailed information regarding the balancing of vehicle demand and supply can be found in the latest FMP, dated May 22, 1996. Future SRTPs will incorporate the FMP into the Rail Service Plans section of this Chapter.

Car Requirements

Future car requirements were forecast using BART's *Service Planning Model* which allocates system capacity by route. As shown in Figure 3-4, BART's online car requirements are forecast to increase from 443 currently to 557 in FY 06, reflecting the addition of 27 peak period trains over today's 48. This does not include the temporary service of two five-car I680/24 mitigation trains. It is also assumed that the fleet size will increase from 669 vehicles currently to 697 by the time service to San Francisco Airport begins in FY 01. Based on the assumptions used in this forecast, as discussed below and as shown in Figure 3-4, BART is anticipated to have a sufficient number of vehicles to meet projected demand.

Load Factors: Required capacity is determined by accommodating projected demand at maximum screenlines for given load factors. As stated previously, the service plans in this SRTP are based on maintaining current peak period load factor conditions on all peak trains. This means averaging a 1.35 load factor during peak hour operations, 1.15 during the shoulder periods, and a maximum load factor of 1.00 for offpeak service. Note that these load factors represent *targets*. Actual allocation of capacity may differ as impacted by system operating constraints, special requirements, and/or other considerations as discussed below.

Captive Fleet Program: Allocation of capacity assumes continuation of BART's *Captive Fleet Program* which assigns individual cars to a specific yard. This program has helped BART improve vehicle reliability and will become even more important as the fleet expands. Accordingly, the service plans include individual cars arriving at the same yard from which they were dispatched earlier in the day.

Modular Train Sizing: The service plans also respect *modular train sizing*. BART has developed and uses this scheduling strategy for optimum use of its varied vehicle fleet and to minimize labor requirements in the yards for altering train lengths throughout the day. BART currently sizes trains on a *5/5* basis for transbay service and on a *3/6/9* basis for the East Bay route. This means that the transition from the morning peak to midday service, for example, can easily be accommodated by splitting each 10-car transbay train in half to form two 5-car trains. On the East Bay route, 9-car trains can be split up into three 3-car trains, or one 6-car train and one 3-car train. The transition from midday to the afternoon peak service involves the reverse procedure. Experience has shown that the labor savings and service benefits of modular train sizing outweigh its disadvantages which include running trains that are somewhat longer than actually needed, adding power and maintenance expense.

Minimum Service Frequencies: In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service would be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: North Concord/Martinez-Transbay, Dublin/Pleasanton-Transbay, and Richmond-Fremont.

Service by Route and Extensions: Figure 3-5 summarizes the online train and car requirements by route. Note that each route has a *color designation* based on system route maps located in each BART car and station, as well as in information brochures. [The yet-to-be implemented Dublin/Pleasanton-Transbay route has been given a blue color designation]. These car and train requirements are based on the following service assumptions:

- *YELLOW LINE*, North Concord/Martinez-Transbay Route. Service to Pittsburg/Bay Point Station will be an extension of current North Concord-Transbay service at a frequency of no less than a train every 15 minutes north of Concord Station. Higher frequency service may be added to maintain load factors within policy limits. South of Daly City Station, weekday Yellow Line service is assumed to be no greater than a train every 15 minutes. Other Yellow Line trains are to reverse direction at Daly City Station.

- *RED LINE*, Richmond-Transbay Route. Service south of Daly City Station is provided during peak periods only and is an extension of Richmond-Transbay service, at a service frequency no greater than a train every 15 minutes. During the offpeak, service on this route terminates at Daly City Station. With the opening of stations south of Colma in FY 01, all Richmond-Transbay trains are to serve the entire San Francisco Airport extension on a 15-minute base headway.

- *GREEN LINE*, Fremont-Transbay Route. Service is assumed to be operated on this route as it is currently with trains reversing direction at Daly City Station for the return trip to Fremont.

Figure 3 - 5

TRAINS AND CARS ONLINE
ROUTE SUMMARY

TOTAL ONLINE TRAIN SUMMARY, BY ROUTE

FISCAL YEAR	RED *Richmond*	YELLOW *N. Concord*	GREEN *Fremont*	BLUE *Dublin*	TRANSBAY SUBTOTAL	ORANGE *East Bay*	MB-SFIA SHUTTLE	SYSTEM TOTAL
94	8	16	10	—	34	9	—	43
95	8	16	10	—	34	9	—	43
96	9	19	10	—	38	10	—	48
97	9	19	10	9	47	10	—	57
98	9	19	10	9	47	10	—	57
99	9	21	10	9	49	10	—	59
00	9	21	10	9	49	10	—	59
01	13	26	12	11	62	12	1	75
02	13	26	12	11	62	12	1	75
03	13	26	12	11	62	12	1	75
04	13	26	12	11	62	12	1	75
05	13	26	12	11	62	12	1	75
06	13	26	12	11	62	12	1	75

TOTAL ONLINE CAR SUMMARY, BY ROUTE

FISCAL YEAR	RED *Richmond*	YELLOW *N. Concord*	GREEN *Fremont*	BLUE *Dublin*	TRANSBAY SUBTOTAL	ORANGE *East Bay*	MB-SFIA SHUTTLE	SYSTEM TOTAL
94	80	160	100	—	340	66	—	406
95	80	160	100	—	340	66	—	406
96	90	190	100	—	380	63	—	443
97	90	190	80	63	423	63	—	486
98	90	190	80	63	423	63	—	486
99	84	206	76	64	430	63	—	493
00	84	206	80	64	434	63	—	497
01	93	248	76	72	489	51	3	543
02	97	252	80	72	501	51	3	555
03	97	254	80	72	503	51	3	557
04	97	254	80	72	503	51	3	557
05	97	254	80	72	503	51	3	557
06	97	254	80	72	503	51	3	557

- Service levels as of June 30 of each fiscal year.
- Service for 1995 & 1996 does not include the two 5-car I680/24 mitigation trains (N. Concord/Martinez - S. Hayward).
- Changes in midday train lengths, which drives modular sizing patterns utilized (ie: 5/5/10, 4/6/10, 4/4/8), cause fluctuations in car requirements by route by fiscal year.

- *BLUE LINE*, Dublin/Pleasanton-Transbay Route. Service on this new route is assumed to operate all day at a minimum weekday base headway of 15 minutes. Plans call for trains on this route to reverse direction at Daly City Station for the return trip to Dublin/Pleasanton.

- *ORANGE LINE*, Richmond-Fremont Route. Service is assumed to be operated on this route as it is currently with trains serving the East Bay from Richmond to Fremont.

- *MILLBRAE-SAN FRANCISCO AIRPORT SHUTTLE*, A three-car shuttle is expected to be operated between these two stations when service south of Colma opens mid FY 01.

Symmetrical Route Merging and Minimum Headways: Trains merging from individual routes onto common track through downtown Oakland require symmetrical headway operations. This means that service must be provided on each route at the same headway or one that is an even multiple of it. It is also assumed that once any given route requires closer-headway service at higher frequencies, headways would be adjusted for all other routes to maintain proper train merging. This situation is projected to occur in FY 01 when transbay demand requires additional peak period trains, up from four trains per hour to five. Peak period headways on all routes are assumed to be reduced from a train every 15 minutes to one every 12 minutes. The one exception is service on the *Yellow Line* (North Concord/Martinez-Transbay route) which is to be provided at a higher frequency during peak periods, due to patronage demand. In addition, extra peak period trains will be short-turned on the *Yellow Line* as necessary to maintain balanced load factors. This reduction in headways results in an increase in the number of online trains and effectively reduces average train lengths.

The transition to a 12-minute route headway will require the capability to operate the system at a minimum scheduled headway of two minutes. The *Advanced Automatic Train Control* (AATC) system will be required for this level of service. This project is assumed to be completed and in operation by the time it is needed in FY 01 as noted above. With AATC, peak hour transbay service will increase to 27 trains per hour (i.e., five trains per hour on each of the *Red Line, Green Line,* and *Blue Line*, and twelve trains per hour on the *Yellow Line*). With a 30-train per hour maximum schedule capability assumed for AATC, BART is forecast to have three train slots remaining and available for future expansion of service beyond the level planned for FY 06.

Maintenance Requirements: As shown in Figure 3-4, BART currently has an average of 110 cars in for maintenance at any given time. It is assumed that with capital investment into BART maintenance shops, the number of cars in for unscheduled maintenance will decrease. With the projected expansion of the fleet to 697 cars by FY 01, the number of cars in for maintenance for the ten-year planning period will range from 99 to 120. This assumes that scheduled capital improvements are made to maintenance shops to increase output.

Yard Logistics Cars: BART allocates two cars per maintenance yard for logistical moves in assembling and disassembling trains. Accordingly, eight cars have been carried forward throughout the planning period for this purpose.

Ready Spare Cars and Car Deficits: The current practice of allocating a 10-car train for each terminal station is assumed to be revised and is implicit in the service plans for this SRTP. Under the new assumption, the Fremont and Dublin/Pleasanton terminals will have ready reserves equal to the length of the peak period trains, 8- and 7-cars, respectively. It is also assumed that ready spare vehicles are to be placed in service when car deficits arise. Note that through FY 02, up to 36 vehicles are continually rotated out of the fleet in accordance with the schedule for completing the *Car Renovation Program.* Once this program is completed in May 2002, the operating fleet is effectively 36 cars larger, allowing for a return to the practice of maintaining adequate ready spares. However, forecast growth in demand gradually consumes the available capacity such that some ready reserve cars are always needed for revenue service.

EXPRESS BUS SERVICE PLAN

The proposed modifications for BART express bus routes builds off of revisions which have been made to date and focus on improving the performance of this service. This is to be accomplished through route revisions and integration with new rail service. The following summarizes BART's proposal for its express bus service (refer to Figure 1-5 for current service details by route):

State Route-4 Corridor

Express bus service is currently provided on four routes between North Concord/Martinez Station and Martinez in the central part of Contra Costa County; and between North Concord/Martinez Station and Pittsburg, Antioch, and Brentwood in the eastern portion of the county. Route modifications are proposed for implementation with the start of new rail service in this corridor as follows:

Route ME: This route currently operates daily between North Concord/Martinez Station and Martinez, and no modifications are planned.

Route PE: This route currently operates on weekdays between North Concord/Martinez Station and Antioch. When Pittsburg/Bay Point Station opens in Fall 1996, BART proposes to make this rail station the new western terminal for the PE express bus route.

Route PE1: This route currently operates on weekdays between North Concord/Martinez Station and Brentwood. This express bus route's terminal will be relocated to Pittsburg/Bay Point Station when new rail service begins and will provide weekend service.

Route P2X: This route currently operates weekends to Brentwood. In Fall 1996 when Pittsburg/Bay Point Station opens and PE1 service is extended to weekends, it is proposed that this route be discontinued.

Interstate-580 Corridor

Express bus service is currently provided on four routes between Hayward and Bay Fair stations in the west and the Livermore Valley via I-580 to the east. Route modifications and the addition of a new express bus route are planned for implementation with the start of rail service in this corridor. The express bus service in this corridor is as follows:

Route U: This route currently operates daily between Hayward Station and Pleasanton. Plans call for discontinuing service on this route effective late 1996 when rail service to Castro Valley and Dublin/Pleasanton stations begins.

Route UX: This route currently operates on weekdays during peak hours only between Bay Fair Station and Pleasanton. This route is also slated to be discontinued effective late 1996 when rail service to Castro Valley and Dublin/Pleasanton stations begins.

Route UL: This route currently operates weekdays between Bay Fair Station and Livermore. Effective late 1996, the western terminal for this route is to be relocated to Dublin/Pleasanton Station with service discontinued west of this station. This route will run between the new Dublin/Pleasanton Station and the intermodal transfer center in downtown Livermore.

Route UP: This route currently operates on weekdays during peak hours only between Bay Fair Station and Hacienda Business Park in Pleasanton. BART proposes to discontinue this route effective late 1996 when rail service to Castro Valley and Dublin/Pleasanton stations begins.

Route UE: BART proposes to implement a new *Freeway Flyer* route with service to be provided weekdays during peak hours only between Dublin/Pleasanton Station and the Lawrence Livermore National Laboratory. The start of service for this new express bus route will be coordinated with the late 1996 opening of the Dublin/Pleasanton Station.

Interstate-680 Corridor

Express bus service is currently provided on two routes between BART's Walnut Creek Station and Pleasanton via I-680. Route modifications proposed for this corridor are as follows:

Route DX: This route currently operates on weekdays between Walnut Creek Station and Hacienda Business Park in Pleasanton. Commencing in July 1996, this route will be divided into the DX and DUX. The DX will operate between the Walnut Creek Station and Bishop Ranch Business Park in San Ramon. The DUX will operate between Bishop Ranch Business Park and Hacienda Business Park in Pleasanton. The DX will operate on 30 minute headways during the peak hours and 60 minute headways during off peak. DUX will operate on 60 minute headways all day. A reduction in midday and evening service is proposed, along with establishing Dublin/Pleasanton Station as the new southern terminal for this route when rail service begins to this station.

Route D: This route currently operates on weekends between Walnut Creek Station and Stoneridge Mall in Pleasanton. BART proposes to streamline the route, resulting in reduced run times and faster service.

Interstate-80 Corridor

Express bus service is currently provided on three routes between BART's El Cerrito del Norte Station and Pinole, Hercules, and Rodeo via I-80. Planned route modifications in this corridor are as follows:

Route J: This route currently operates daily between its southern terminal at El Cerrito del Norte Station and Pinole and Hercules to the north. BART proposes to continue service on this route as currently provided.

Route JX: This route currently operates on weekdays during peak hours only between El Cerrito del Norte Station and Pinole and Hercules. Caltrans funds this service as a construction mitigation measure related to I-80 construction work. No revisions are proposed for this route through FY 97, per Caltrans' commitment to provide funding for this route through June 1997.

Route Q: This route currently operates on weekdays during peak hours only between El Cerrito del Norte Station and Pinole. BART proposes to continue service on this route as currently provided.

ADA PARATRANSIT SERVICE PLAN

During FY 97, BART will expand paratransit services throughout its entire service area, coming into full compliance by the federally mandated date of January 26, 1997. The chart below summarizes BART's anticipated service levels during FY 97.

SERVICE AREA	RIDERSHIP
Consortium service (31% of the program total)	183,000
San Francisco (8.8% of the program total)	97,000
Contra Costa (not incl. service provided by Fixed Route Operators)	30,000
I-580 Corridor	13,000
TOTAL SERVICE	**323,000**

CHAPTER 4

FISCAL YEAR FORECASTS & FINANCIAL PLAN

BART's SRTP financial plan focuses on the District's operating budget for fiscal years 1997 through 2006. All sources of revenue, expense, and financial assistance are identified. The starting point for the financial projections is BART's FY 97 proposed operating budget, the focus of the next section.

Following the discussion of the FY 97 budget, is the presentation of BART's Base Financial Forecast along with the underlying assumptions. This financial forecast establishes BART's base deficits for FY 98 through FY 06 and frames the District's fiscal challenges. Scenarios to balance the base deficit will be developed in accordance with the Metropolitan Transportation Commission's (MTC) requirement that SRTPs be fiscally constrained and balanced. These scenarios will appear in the final adopted document.

FY 97 PROPOSED OPERATING BUDGET

BART's proposed operating budget for FY 97 is summarized in Figure 4-1. This financial statement provides for full support during the fiscal year for core system operations and extensions service. The FY 97 proposed operating budget also funds BART's ADA paratransit deficit and bond debt service for system renovation. The budget includes $300.7 million in operating revenue and financial assistance, balancing an equal amount in operating expense and debt service. BART's proposed FY 97 operating budget provides funding to augment eight key areas of emphasis:

- daily service delivery
- systemwide renovation
- extensions service
- safety and security
- training and human resources
- ADA and system access
- planning and regional leadership
- financial obligations and cost reductions

The District will continue to emphasize cost control and reductions. The FY 96 budget funded $4.1 million in aggressive cost containment measures including the reduction of 39 management positions effective January 1, 1996; labor contract wage savings in accordance with a new pay progression scale; express bus route modifications; and lower medical and workers' compensation insurance costs. During FY 94 and FY 95, the District eliminated an additional 55 positions. These three years of staff reductions have lowered management by 20% (this excludes the BART Police Department). The proposed FY 97 operating budget continues in this spirit and adds further cost savings in power expense, express bus service, and pay progression.

On the revenue side, the proposed FY 97 operating budget remains conservative by not assuming any change to core system ridership except for a small patronage loss for a full year of the April 1996 fare increase and the first three months (e.g., April through June 1997) of the April 1997

Figure 4 - 1

FY 97 BART PROPOSED OPERATING BUDGET

All Figures in Thousands of Dollars

REVENUE	
Net Rail Passenger Revenue	143,829.2
Net Express Bus Passenger Revenue	1,171.1
ADA Service Passenger Revenue	688.4
Total Net Passenger Revenue	**145,688.7**
Interest Revenue	7,659.6
Other Operating Revenue	3,732.3
Subtotal Non-Fare Revenue	**11,391.9**
Total Operating Revenue	**157,080.6**
EXPENSE	
Net Labor	190,188.5
Express Bus Service	5,828.8
Shuttle Service	99.0
Purchased Transportation	6,169.9
ADA Service	1,731.9
Power, Traction & Station	21,507.2
Other Non-Labor	43,584.2
PERS	0.0
Total Operating Expense	**269,109.5**
OPERATING DEFICIT	**(112,028.9)**
FINANCIAL ASSISTANCE	
Sales Tax (BART 75%)	128,925.7
Property Tax	13,232.6
ADA Assistance	223.4
TDA State Assistance	1,188.9
San Mateo County	0.0
Cost Allocation Plan Reimbursement	0.0
Total Financial Assistance	**143,570.6**
DEBT SERVICE & ALLOCATIONS	
C-Car Revenue Bond Debt Service	(19,947.5)
New Bond Debt Service	(9,994.2)
Other Capital Allocations	(1,600.0)
Miscellaneous Other	0.0
Total Debt Service & Allocations	**(31,541.7)**
FINANCIAL RESULT	**(0.0)**

increase. The proposed FY 97 operating budget assumes 4.8% annual sales tax growth and 4.6% annual growth for property tax. The proposed FY 97 operating budget delivers on the promise not to use any of the proceeds from the Board adopted fare increases to balance the core system's financial requirements. The proposed budget allocates the fare increase proceeds to fund BART's ADA service deficit, system renovation bond debt service, and rail extensions service.

FY 97 Operating Revenue

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified as follows:

Net Passenger Revenue: Total passenger revenue for FY 97, budgeted at $145.7 million, is 19.2% higher than FY 96's projected actual of $122.3 million. This gain reflects the addition of extensions ridership and a full year's impact of the April 1996 13% fare increase, compounded by the April 1997 11.4% increase during the last quarter of the FY 97. Budgeted rail passenger revenue for FY 97 is net of $2.0 million in Colma Station surcharges which are to be returned to SamTrans per the current cost-sharing agreement. Express bus revenue for FY 97 is budgeted 3.6% under FY 96's actual, at $1.2 million. This change reflects decreased express bus ridership, which is assumed to shift to new rail extension service, as offset by the impact of BART's general fare increase. ADA paratransit service passenger revenue is budgeted at $0.7 million for the year.

Non-Fare Revenue: Revenue from non-fare sources includes interest income on operating fund balances. This is budgeted at $7.7 million in FY 97, 8.9% under FY 96's $8.4 million due to expected lower interest earnings. Other non-fare sources of operating revenue are budgeted at $3.7 million, 6.4% below FY 96's projected actual. This reduction is due primarily to lower joint development revenue as the result of a prepayment made in FY 96 (thereby inflating FY 96's revenue at the expense of FY 97's).

FY 97 Operating Expense

Total operating expense for FY 97, which includes service for five extension stations, is budgeted at $269.1 million. This is 12.3% above FY 96's projected actual of $239.7 million. FY 96 had approximately one-half year of service to two extension stations, North Concord/Martinez and Colma.

Labor Expense and Staffing: Labor expense, which constitutes approximately 70% of BART's operating budget, is set to rise 14.4% from $166.2 million in FY 96 to $190.2 million in FY 97. This $24.0 million gain reflects increasing emphasis for extensions service as noted above. To support extensions, District staffing is budgeted to increase by 165 FTEs in FY 97. Systemwide service and other initiatives will require 37 additional FTEs. These initiatives address improvements for maintenance, safety and security, training, ADA, and other programs which support improved rail service. In FY 97, 16 capital positions are to be realigned into the operating

budget. These positions, less 18 that were eliminated from the FY 96 budget, result in total District staffing of 2,935.5 FTEs budgeted in FY 97. This is up by 200.1 FTEs from the FY 96 budget.

Express Bus Service Expense: The expense for BART express bus operations is budgeted to decrease 15.5% from $6.9 million in FY 96 to $5.8 million in FY 97. This decrease reflects the service modifications identified in Chapter 3. Express bus expense includes the hourly rates specified in the most recent Laidlaw contract which became effective in January 1996.

ADA Paratransit Service Expense: Plans call for BART to come into full compliance in FY 97 with regard to providing ADA paratransit service. FY 97 is the final transition year for phasing of this program which began in the latter part of FY 96. The buildup of new ADA service reflects the large increase in expense from FY 96's projected actual of $2.4 million to $6.2 million budgeted in FY 97.

Power Expense: Station and traction power expense constitute approximately 8% of the District's operating budget. Power expense is targeted to increase 12.3% from FY 96's projected actual of $19.2 million to $21.5 million in FY 97. This increase reflects higher car miles due to extension openings in FY 97, as well as a full year of service for Colma and North Concord/Martinez. This also reflects lower power rates from Pacific Gas and Electric's (PG&E) general rate reduction and the purchase of power from Western Area Power Administration (WAPA). Additional reductions in power expense, not reflected in the FY 97 budget, are anticipated when contracts with PG&E are put into place for the delivery of substantial amounts of hydroelectric power from WAPA and the Bonneville Power Administration.

Other Non-Labor Expense: This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities, and other miscellaneous items. Non-labor expense is budgeted at $43.6 million in FY 97, 0.5% above FY 96's projected actual of $43.4 million.

To offset the impact of required resumption of employee pension payments to the California Public Retirement System (PERS), $3.2 million is budgeted to be set aside in a separate PERS reserve account: $1.6 million from FY 96 income and an equal amount from the proposed FY 97 operating budget.

FY 97 Financial Assistance

The District's FY 97 operating budget includes 4.8% growth in financial assistance, from FY 96's projected actual of $137.0 million to $143.6 million budgeted in FY 97. The sources of this financial assistance are:

Sales Tax: The sales tax rates in the current three-District counties include a dedicated 0.5% transit operating subsidy. BART receives 75% of this amount, with the remaining 25% shared by MUNI

and AC Transit. In FY 96, it is estimated that BART will receive $123.0 million from sales tax, up 6.8% from FY 95. This is the largest year-to-year gain since the national recession hit California in 1991. Sales tax revenue is slated to grow 4.8% in FY 97 to $128.9 million. This 4.8% annual growth rate is based on the historical relationship between the annual rate of growth for sales tax versus that for the Consumer Price Index (e.g., FY 82 through FY 96). Historically, sales tax receipts have grown 1.8% above CPI. The FY 97 proposed operating budget has an implicit 3.0% CPI assumption. This 3.0% CPI growth assumption plus the 1.8% spread yields the 4.8% projected growth rate for sales tax.

Property Tax: BART also receives a portion of property tax proceeds in the three-District counties to cover operating expense. The FY 97 proposed budget set property tax revenue $13.2 million, 4.6% above FY 96's projected actual.

State Transportation Assistance (STA): BART traditionally has allocated STA assistance to its capital budget. However, STA is now identified as a funding source for ADA paratransit service expense. Accordingly, the District's proposed FY 97 operating budget includes $0.2 million in STA funds for ADA.

Transportation Development Act (TDA): In recent years, BART has received on the order of $0.5 million in TDA funds annually for general operating purposes. The FY 97 proposed operating budget includes a total of $0.5 million in TDA for this purpose. An additional $0.7 million in TDA is also included in the FY 97 proposed budget for ADA.

San Mateo County Subsidy: This is a new potential source of operating funds which is to be provided by San Mateo County as payment for BART rail service south of Daly City Station. The District's FY 97 proposed operating budget assumes no required subsidy from San Mateo County under the conditions specified in the current cost-revenue sharing agreement (i.e., contract formula revenue is greater than contract formula operating expense).

FY 97 Debt Service and Allocations

BART's financial requirements traditionally have included the funding for certain obligations from its operating budget including bond debt service and contributions to capital. These line items are discussed as follows:

C-Car Revenue Bond Debt Service: This includes amounts primarily for servicing the debt on the 1990 and 1991 issues of bonds used to purchase 80 additional cars. The FY 97 proposed operating budget includes $19.9 million for this purpose.

New Bond Debt Service: This line item is new to BART's operating budget starting in FY 97. This is for the debt service on the first of four issues of bonds, the proceeds of which are to be used

for system renovation and other portions of BART's capital program. The amount budgeted for this purpose in FY 97 is $10.0 million.

FY 97 Financial Result and Indicators

The District's FY 97 proposed operating budget is balanced, with sources of income equal to expense. Budgeted financial performance is favorable relative to levels achieved in prior years, and reflects the impact of the Board adopted fare increases as well as efforts to contain costs and improve productivity.

Farebox Ratio: The farebox ratio for rail operations is slated to increase from 52.9% in FY 96 to 56.3% in FY 97. BART express bus operations are budgeted to return 20.1% of this service's contract expense. This compares to 17.6% in FY 96. ADA service is forecast to have an 11.2% farebox ratio. The systemwide farebox ratio for all modes is budgeted to be 54.1% in FY 97, up from 51.0% in FY 96.

Operating Ratio: The systemwide operating ratio is slated to increase from FY 96's projected actual of 56.2% to 58.4% in FY 97.

Rail Cost Per Passenger Mile: BART's rail cost per passenger mile is projected to be 24.9¢ in FY 96. The FY 97 budget calls for this productivity measure to come in at 26.4¢, and reflects the additional front-loaded expense for phasing of extensions service relative to the forecast buildup of ridership.

BASE FINANCIAL FORECAST FOR FY 98 THROUGH FY 06

BART's base financial forecast is presented in Figure 4-2. This financial statement keys off of the FY 97 proposed operating budget and includes the impact of the January 1995 adopted fare increase package. The base forecast includes no additional fare increases, no changes in discounts, nor any other revisions to remaining elements in BART's fare structure (Figure 1-6). The base forecast includes deficit reduction measures and other adjustments to revenue and expense.

The following sections present BART's base out-year financial forecast which is projected to result in a cumulative operating budget deficit of $119.1 million by FY 06. As summarized in Figure 4-2, this forecast consists of projections for revenue, expense, financial assistance, and debt service allocations. The process used to develop the base forecast is discussed below including the underlying assumptions for each element. This discussion forms the basis for subsequent sections to be included in this chapter which will address BART's projected base deficit. These additional sections will appear in the final adopted SRTP.

Figure 4 - 2

BART BASE FINANCIAL FORECAST

JANUARY 1995 ADOPTED FARE INCREASES / NO OTHER FARE INCREASES / BART'S FORECAST OF SALES TAX

All Figures in Millions of Dollars

	Proposed Budget FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06
REVENUE										
Net Rail Passenger Revenue	145.8	161.1	164.0	166.8	184.2	200.7	205.6	210.6	215.6	220.8
San Mateo County Surcharge Revenue	(2.0)	(2.4)	(2.6)	(2.9)	(6.7)	(9.1)	(9.9)	(10.7)	(11.5)	(12.2)
Net Express Bus Passenger Revenue	1.2	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9
ADA Service Passenger Revenue	0.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Total Net Passenger Revenue	145.7	160.9	163.4	166.0	179.6	193.6	197.8	202.1	206.3	210.7
Interest Revenue	7.7	7.9	8.1	8.4	8.6	8.9	9.1	9.4	9.7	10.0
Other Operating Revenue	3.7	3.9	4.1	4.2	4.3	4.4	4.6	4.8	4.9	5.1
Subtotal Non-Fare Revenue	11.4	11.8	12.2	12.6	12.9	13.3	13.8	14.2	14.6	15.1
Total Operating Revenue	157.1	172.7	175.6	178.5	192.5	207.0	211.6	216.3	220.9	225.8
EXPENSE										
Net Labor	190.2	200.6	207.8	214.8	230.2	249.4	259.0	267.6	276.5	285.8
Express Bus Service	5.8	4.9	5.0	5.2	5.3	5.5	5.6	5.8	6.0	6.2
Shuttle Service	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Purchased Transportation	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6
ADA Service	6.2	9.4	9.7	10.0	11.1	11.6	12.1	12.5	12.9	13.3
Traction Power	17.2	13.9	13.9	14.0	14.5	16.2	16.9	17.3	17.8	18.3
Station Power	4.3	3.5	3.5	3.5	3.6	3.9	4.0	4.1	4.2	4.3
Other Non-Labor	43.6	45.8	47.5	48.2	52.7	54.7	57.2	58.5	60.7	62.5
PERS	0.0	11.6	12.0	12.4	13.3	14.4	15.0	15.5	16.0	16.5
Total Operating Expense	269.1	291.5	301.4	310.1	333.0	358.0	372.2	383.8	396.7	409.6
OPERATING DEFICIT	(112.0)	(118.8)	(125.8)	(131.6)	(140.5)	(151.0)	(160.6)	(167.5)	(175.8)	(183.8)
FINANCIAL ASSISTANCE										
Sales Tax Proceeds (BART 75%)	128.9	135.1	141.6	148.4	155.5	163.0	170.8	179.0	187.6	196.6
Property Tax Proceeds	13.2	13.9	14.6	15.3	16.1	16.9	17.7	18.6	19.6	20.5
STA General Operating Assistance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TDA General Operating Assistance	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.5
STA & TDA Assistance for ADA Service	0.9	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6
New Dedicated ADA Funding Source	0.0	8.1	8.5	8.7	9.9	10.3	10.8	11.2	11.6	12.0
San Mateo County Service Subsidy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Financial Assistance	143.6	159.1	166.6	174.4	183.4	192.1	201.3	210.8	220.8	231.3
DEBT SERVICE & ALLOCATIONS										
System Renovation Bond Debt Service	(10.0)	(18.7)	(25.7)	(39.7)	(39.7)	(39.7)	(39.7)	(39.7)	(39.7)	(39.7)
C-Car & All Other Bond Debt Service	(19.9)	(20.1)	(20.2)	(20.3)	(20.4)	(20.5)	(20.6)	(20.7)	(20.9)	(21.0)
SFO Agreement Capital Allocations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERS Reserve & Other Capital Allocations	(1.6)	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Debt Service & Allocations	(31.5)	(35.6)	(45.8)	(59.9)	(60.1)	(60.2)	(60.3)	(60.4)	(60.6)	(60.7)
FINANCIAL RESULT	(0.0)	4.7	(5.0)	(17.2)	(17.2)	(19.1)	(19.6)	(17.1)	(15.5)	(13.2)
BEGINNING YEAR BALANCE	0.0	(0.0)	4.7	(0.4)	(17.5)	(34.7)	(53.7)	(73.3)	(90.4)	(105.9)
ENDING YEAR BALANCE	(0.0)	4.7	(0.4)	(17.5)	(34.7)	(53.7)	(73.3)	(90.4)	(105.9)	(119.1)

Rail Passenger Revenue

The underlying basis for projecting rail passenger revenue, before deduction for San Mateo County surcharge revenue, is the rail ridership forecast presented in Chapter 3. For any given fiscal year, an applicable station-to-station fare matrix is applied to the same fiscal year's ridership forecast, which is also on a station-to-station basis. Trips are identified which involve San Mateo County station use as part of a special analysis to determine San Mateo County surcharges. According to the current cost-revenue agreement, passenger fare surcharges collected at stations south of Daly City for BART trips not involving transbay travel are to be returned to San Mateo County. The SRTP revenue projections are consistent with this agreement and credit San Mateo County with this revenue.

The fare revenue identified per the above procedure is reduced 10.0% which is equal to the systemwide discount rate. This converts the forecast of gross fare revenue (i.e., the product of overlaying the trip matrix with that for fares, as noted above) to a net revenue basis which represents the actual level of passenger fares BART is forecast to receive. In calculating rail passenger revenue, the SRTP financial model also adjusts ridership to account for fare increases and associated erosion of demand (refer to Chapter 3, page 3-3). A timing adjustment is also made to account for fare increases which are implemented for part of a fiscal year.

Based on the methodology described above, rail passenger revenue including San Mateo County surcharge revenue is projected to increase from a base of $161.1 million in FY 98 to $220.8 million in FY 06. This reflects growth in ridership, higher average fares due to longer trips with extensions, and higher fares due to application of the January 1995 adopted fare package.

San Mateo County Surcharge Revenue

BART's base forecast for San Mateo County surcharge revenue starts out at $2.4 million in FY 98, and increases with the growth in Peninsula extension ridership to $12.2 million in FY 06. San Mateo County surcharge revenue is subtracted from net rail revenue as discussed in the preceding section, and is not included in the Total Net Passenger Revenue line-item shown in Figure 4-2.

This forecast is based on the cost-revenue sharing agreement currently in effect between the District and SamTrans for BART rail service south of Daly City Station. Per this agreement, all San Mateo County surcharge revenue collected at stations south of Daly City is to be returned to SamTrans. As identified in Figure 1-6, this surcharge is currently 68¢ for all West Bay trips beginning or ending in San Mateo County (in accordance with the current agreement, BART will retain all San Mateo surcharge revenue collected at Daly City Station). It is assumed that this surcharge will increase in proportion to general increases in BART fares. This SRTP forecast assumes that there will be fare surcharges at all San Mateo County BART stations.

Express Bus Passenger Revenue

Passenger revenue for express bus service was forecast based on an average express bus fare. As for rail, express bus fares are assumed to increase in accordance with the adopted fare package rates, which are applied to the forecast ridership for this service. Express bus passenger revenue is forecast to be $0.8 million in FY 98. This is 28.7% less than budgeted in FY 97. This decrease reflects elimination of portions of express bus routes which parallel new rail extensions and realignment of express bus service to new stations. By FY 06 express bus passenger revenue is forecast to be $0.9 million.

ADA Paratransit Passenger Revenue

ADA passenger revenue is per current and anticipated cost-sharing agreements BART has with other Bay Area transit operators. These revenue estimates cover the period from FY 97 through FY 98, the latter of which is the first full year of ADA compliance. After FY 98, ADA passenger revenue assumes that ridership for this service will grow 1.25% per year and that the average ADA fare will grow per general BART rail fare increases. Accordingly, BART's base ADA passenger revenue forecast calls for $1.25 million in FY 98 and growing at 1.25% to $1.27 million in FY 06.

Total Net Passenger Revenue

BART's total net passenger revenue, consisting of the revenue from the above sources and not including applicable surcharge revenue returned to San Mateo County, is forecast to grow from $160.9 million in FY 98 to $210.7 million in FY 06.

Operating Revenue From Sources Other Than Fares

Non-passenger fare revenue consists of funds generated through concessions, advertising, fines and forfeitures, joint development, interest earnings, and miscellaneous other sources. The total amount of this revenue is forecast to grow slightly above CPI at 3.3% annually, from $3.9 million in FY 98 to $5.1 million in FY 06. The base assumption for all line items in this category of revenue is 3.0% CPI growth. Growth above CPI is due to the assumed additional joint development revenue which is anticipated to be generated by new projects within the current SRTP timeframe. Revenue from interest earnings is assumed to be $7.9 million in FY 98, growing at CPI to $10.0 million in FY 06.

Total Operating Revenue

Based on forecasts for line items under passenger and non-passenger revenue discussed above, BART's base revenue forecast is slated to grow from $172.7 million in FY 98 to $225.8 million in FY 06. Note that this includes the impact of the January 1995 adopted fare increase package and no other raise in fares.

Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model was calibrated to the FY 96 adopted and revised budget with adjustments made to reflect deficit reduction measures, non-linear expense items, and anticipated revisions to unit costs.

Inputs to the cost model reflect the service levels for both rail and express bus as discussed in Chapter 3. Non-modeled expense, such as for ADA, was added to the model forecast. Key inputs to the cost model include:

- annual passenger trips
- number of routes and route miles of track
- number and configuration of stations (i.e., subway, at-grade, etc.)
- peak online trains and cars
- number of cars in the fleet
- annual car miles, train hours, and express bus hours

Additionally, the model input also includes assumptions for the consumer price index. The 1996 SRTP assumes CPI is at 3.0% throughout the ten-year period.

Staffing and Labor Expense

Labor expense growth reflects the increase in staff needed for expanded system operations with extensions. Staffing is a direct output of the cost model and is forecast to increase from 2,935 FTEs in FY 97 to 3,204 FTEs in FY 06. The largest increases are forecast to occur in fiscal years during which time new extensions service begins.

The forecast for labor expense is based on growth in wages and benefits in accordance with current labor contracts which specify 2.4% wage growth through FY 97. It is assumed that wage growth will be equal to 3.0% CPI in all subsequent years. Under these assumptions, labor expense is forecast to grow from $200.6 million in FY 98 to $285.8 million in FY 06.

Express Bus Service Expense

Expense for express bus service is based on the rates included in the current Laidlaw contract, the results of contract negotiations due to be completed by January 1997, and the service modifications discussed in Chapter 3. Growth in unit expense for express bus service is assumed to be equal to CPI beyond the upcoming contract. Express bus service expense is forecast to be $4.9 million in FY 98, growing to $6.2 million in FY 06.

ADA Paratransit Service Expense

Expense for ADA paratransit service assumes the current and anticipated cost-sharing agreements through FY 98 and at 3.5% of rail operating expense thereafter. On this basis, ADA expense is forecast to grow from $9.4 million in FY 98 to $13.3 million in FY 06.

Other Bus Expense

BART's expense for shuttle bus service includes payments to the Port of Oakland in support of Oakland Air-BART, temporary shuttles as need for bus-bridges due to cessation of rail service, and other temporary shuttles such as to the Alameda County Fairgrounds. This expense is forecast to grow at CPI and amounts to approximately $0.1 million in each fiscal year from FY 98 through FY 06.

The expense of providing discounts for transfers to and from MUNI is forecast to grow from $1.8 million in FY 98 to $2.6 million in FY 06. This forecast also includes the expense of providing free transfers to MUNI customers at Daly City Station to offset higher fares due to the San Mateo County surcharge.

Traction and Station Power Expense

Power expense is a model output and is forecast largely on the basis of car miles. The basic unit of power expense is assumed to be flat through FY 01 per a tentative five year PG&E rate freeze. Beginning in FY 02 and in subsequent years, the basic unit of power is assumed to grow at 3.0% CPI. Anticipated savings from the purchase of federal power are included in BART's power expense forecast. The same growth for these savings is assumed (i.e., flat for five years, then at CPI). These savings are estimated to be $5.0 million annually from FY 98 through FY 00, $5.6 million in FY 01 (although the unit rate remains flat, the savings grow with the addition of service to Millbrae), and increasing to $6.6 million in FY 06. Additional savings are to accrue from the planned purchase of a power substation which is required for the extension of service south of Colma to San Francisco Airport and Millbrae. This project is included in BART's capital improvement program and is estimated to save the District on the order of $1.5 million a year relative to leasing this facility from PG&E.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities, and other miscellaneous expense are forecast to increase from a forecast of $45.8 million in FY 98 to $62.5 million in FY 06.

Public Employee Retirement System (PERS) Expense

As a result favorable balances BART has not had to make payments to PERS since FY 89. However, BART does anticipate that it will be required to resume PERS payments beginning in FY 98. The amount in that fiscal year is forecast to be $11.6 million, and is assumed to grow in proportion to labor expense increases annually to $16.5 million in FY 06.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $291.5 million in FY 98, growing by the combination of system expansion and CPI to $409.6 million in FY 06.

Sales Tax Financial Assistance

Sales tax revenue is currently the single largest source of operating funds in the District's operating budget. Assumed in the SRTP forecast for sales tax is that San Mateo County remains a non-District member, compensating BART in accordance with the current cost-revenue sharing agreement. With San Mateo County remaining a non-District member, BART's three-county sales tax base will not change in the ten year planning period; a period in which BART's financial requirements will grow as the system expands. These conditions will place a greater emphasis on other sources of funds to make up what historically has been sales tax revenue's proportion of BART's operating budget. It is, therefore, prudent to take a somewhat conservative approach to sales tax revenue in light of this source's importance in District fiscal matters.

Accordingly, BART's base financial forecast assumes annual sales tax revenue growth equal to 1.8% above CPI, or 4.8%. As discussed earlier in this chapter under FY 97 Financial Assistance, this 1.8% spread is based on the historical relationship between sales tax growth and CPI for the period FY 82 through FY 96. BART's forecast of sales tax revenue is lower than MTC's projection which is based on 6.1% annual growth.

Based on 4.8% annual growth, sales tax revenue is forecast to be $135.1 million in FY 98, growing to $196.6 million in FY 06.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 5.0% annually between FY 98 through FY 06. Financial assistance from property taxes is forecast to be $13.9 million in FY 98, growing to $20.5 million in FY 06.

ADA Paratransit Financial Assistance From Existing Funding Sources

Financial assistance for BART-funded ADA paratransit service is per current and planned cost-sharing agreements with other Bay Area transit operators through FY 98 and consists largely of STA and TDA. After FY 98, ADA assistance is assumed to grow conservatively at 1.0% annually. BART's ADA financial assistance forecast starts out at $1.5 million in FY 98 and grows to $1.6 million in FY 06.

ADA Paratransit Financial Assistance From a New Funding Source

As noted above, ADA paratransit expense is assumed to be 3.5% of rail operating expense. Further, the annual farebox ratios for this service are forecast to be between 10% and 13% during the period FY 98 through FY 06, approximately one-fifth the return rate for rail operations. It is assumed that beginning in FY 98, a new dedicated ADA funding source will be available to offset the disproportionately high deficit ADA service has on the District's operating budget. Matching forecast revenue against projected expense for ADA service, BART would expect to receive $8.1 million in FY 98. The level of required funding from this new source would need to increase to cover mounting ADA deficits such that, by FY 06, new ADA funding would need to be $12.0 million.

San Mateo County Financial Assistance

Financial assistance from San Mateo County would come to BART only if operating expense for providing service south of Daly City Station exceeds passenger fare revenue (net of surcharges), as determined by the formulas in the current service agreement. With the ridership levels specified in the BART/San Francisco Airport Extension Draft Environmental Impact Report and at BART's adopted fare increases, no San Mateo County subsidy would be required. The 1996 SRTP base financial forecast, therefore, shows no SamTrans payment to BART's operating budget. BART's 1997 SRTP will include a forecast of San Mateo County subsidy payments based on the renegotiated service agreement which has yet to be finalized and approved by respective agency Boards.

Total Financial Assistance

Total financial assistance from the above sources is forecast to grow from $159.1 million in FY 98 to $231.3 million in FY 06.

Debt Service and Allocations

Debt service forecasts are based on current and anticipated payment schedules for issues of bonds. Included are the existing 1990 and 1991 C-car revenue bonds, the debt service for which grows from $20.1 million in FY 98 to $21.0 million in FY 06. Other debt service is for the four issues of

bonds, the proceeds of which are mainly for system renovation. The first series of these bonds was issued in May 1995. The second series of bonds is slated to be issued in FY 98, with the third and fourth series to follow in FY 99 and FY 00, respectively. The total debt service for these four issues is shown in Figure 4-2 on the New Bond Debt Service line item, which grows from $18.7 million in FY 98 to $39.7 million in FY 06.

A special PERS Reserve will be established as part of the strategy to minimize the impact of resumption of PERS payments in FY 98. This reserve will receive allocations in the amount of $1.6 million from operating budget sources in each of FY 96 and FY 97, with a $3.2 million payout from this account in FY 98. This effectively reduces the $11.6 million expense liability shown on the PERS expense line item in Figure 4-2 to $8.4 million. No other allocations to this PERS account are assumed. Additionally, there are no allocations to capital assumed in the ten year planning period.

Based on the above, BART's total debt service and allocations is forecast to be $35.6 million in FY 98, increasing to $60.7 million in FY 06.

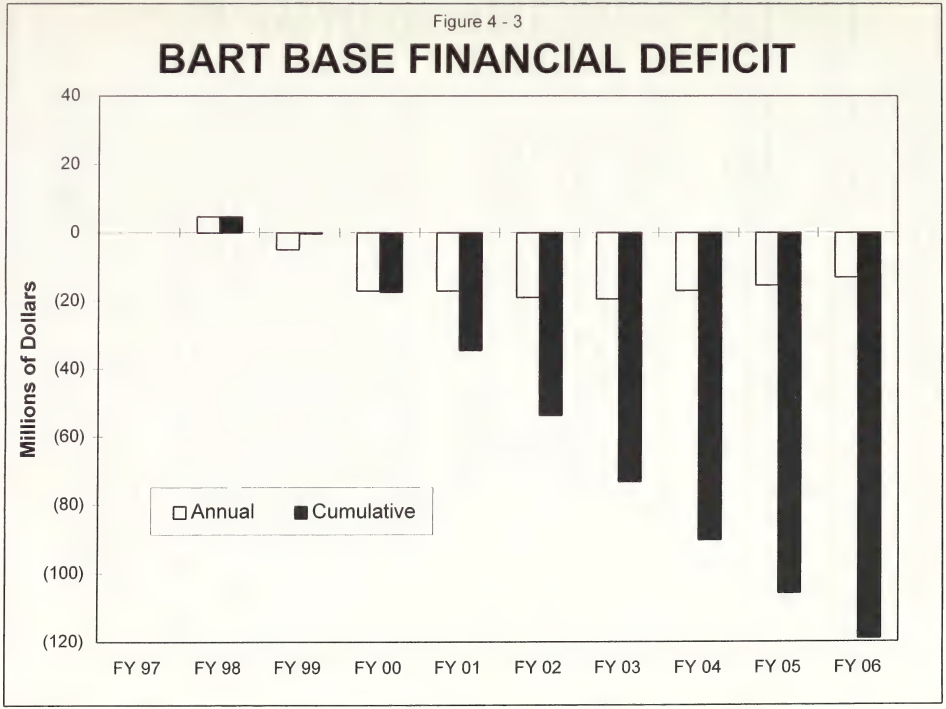
Financial Result

The financial result for BART's base forecast is identified in Figure 4-2 and charted in Figure 4-3. This forecast includes all of the sources identified above for revenue, expense, financial assistance, debt service, and other allocations. As seen in Figure 4-3, FY 98 is forecast to have a $4.7 million surplus which virtually balances FY 99's $5.0 million deficit. With no fare increases beyond April 1997's 11.4% and no expansion of the District's sales tax base, the financial requirements of extensions, ADA, and system renovation outpace growth for sources of operating funds. This condition is forecast to continue through the current planning period, as evidenced by mounting annual deficits. By FY 06, BART's cumulative base forecast deficit is projected to be $119.1 million. This cumulative deficit results after taking credit for the deficit reduction measures which consist of programs to raise additional revenue through sources other than passenger fares, as well as other actions to reduce expense.

CONCLUDING REMARKS

As identified in this SRTP, BART's future includes substantial operational changes and fiscal challenges. From an operations perspective, the system will continue to be subject to a level of expansion through FY 01 unseen in its history since service started in September 1972. The challenge of providing uninterrupted high-quality service through this transition period is a formidable one. Activities in recent years have focused on this critical period. The results of these efforts will greatly assist BART in making the period of service expansion a smooth transition. From a fiscal perspective, a key long-term challenge will be for BART to address the disparity between the growth rates for passenger revenue and sales tax financial assistance versus that for

Figure 4 - 3


BART BASE FINANCIAL DEFICIT
Millions of Dollars
40
20
0
(20)
(40)
(60)
(80)
(100)
(120)
Annual
Cumulative
FY 97
FY 98
FY 99
FY 00
FY 01
FY 02
FY 03
FY 04
FY 05
FY 06

expense. This is particularly relevant should San Mateo County remain a non-District member and continue not to contribute sales tax revenue to BART's operating financial needs.

The additional expense for operating extensions, meeting ADA paratransit service requirements, and providing bond debt service for system renovation places added emphasis on evaluating programs and formulating new methods for reducing expense further and enhancing revenue from sources other than passenger fares.

Other efforts will need to focus on ensuring that BART's financial base keeps pace with the levels of service the District provides. Accordingly, BART will be challenged to find new sources of financial assistance, including that for ADA, and exploring ways to expand the current three-county BART sales tax base.

BART's 1996 SRTP identifies a cumulative base deficit of $119.1 million. This is $175.3 million less than the $294.4 million cumulative base deficit shown in last year's 1995 SRTP. Key factors which contributed to this reduction include savings from a reduced level of management, savings from continuation of current labor agreements, savings from anticipated lower power rates, more financial assistance with this year's higher sales tax forecast, and additional revenue from joint development projects. Also contributing to lowering of the deficit is the reduction in the CPI from 3.5% assumed in last year's SRTP to 3.0% in this year's plan, and the assumption of realizing new ADA funding on the order of $8 million to $12 million a year. Should new ADA funding not come to fruition, BART's $119.1 million cumulative base deficit would increase by $91.2 million to $210.3 million over the ten year period. Even at this higher figure, this is $84.1 million less than the cumulative base deficit presented in the 1995 SRTP.

Notwithstanding, this deficit presents a formidable challenge to the District. BART must continue to investigate ways to minimize the need to raise fares or add other user charges in order to cover unfunded deficits. With regard to the immediate need to address this SRTP's cumulative $119.1 million deficit, BART staff and Board of Directors will be discussing strategies to bring the District's SRTP financial forecast into balance. This discussion will take place during months of June through early August 1996. On August 8, 1996, a public meeting will be conducted as part of the regularly scheduled Board meeting in order to receive comments on the draft SRTP. Following the public meeting and during the remainder of August, the draft of this document will be updated and resubmitted to the District Board of Directors for adoption and submittal to MTC by the required date of September 15, 1996. The adopted document will contain budget-balancing scenarios which will identify ways to reduce costs and increase both revenue and financial assistance. These methods may involve implementation of the following:

- strategies to reduce car miles further
- additional management and labor efficiencies
- rescheduling of bond issues
- projects to generate new revenue from sources other than passenger fares

- expanding the District's sales tax base to include San Mateo County
- converting BART's property tax authorization supporting original system general obligation bond debt service which expires in 1999 to a general financial assistance fund

In summary, the service plans and underlying financial forecasts presented in this SRTP identify the District's desired course of action. Services and programs identified in the District's FY 97 budget have, by the nature of their near-term timing, a higher probability of being implemented as planned than for other projects further out in time. Accordingly, the out-year forecasts represent desired targets which the District will continually update and refine. This will be reflected in BART's future Short Range Transit Plans.

The SRTP also contains an Appendix which identifies the public review process, and includes a record of the verbal comments received at the August 10, 1995 public meeting as well as copies of letters received for both the draft SRTP and CIP.

Approximately 250 capital projects are identified in BART's 1995 CIP. These projects are organized and grouped within five major program areas: system rehabilitation, extensions, seismic retrofit, service improvements, and research/development/demonstrations. The CIP contains an Introduction with the main body of the document divided into four chapters:

- Chapter 1 presents the underlying basis for BART's capital program and how it is organized.
- Chapter 2 identifies the funding strategy for each program area.
- Chapter 3 presents the District's ten year funding requirements.
- Chapter 4 provides additional information for many high priority projects.

Should you have any questions regarding these documents, or require additional copies, you may telephone, fax, or direct your written correspondence to the persons identified below at BART headquarters located at 800 Madison Street, Oakland, CA 94607:

For the SRTP: Mr. Martin Birkenthal
Financial Planning Division
tel: (510) 464-6142
fax: (510) 464-6196

For the CIP: Mr. Dale Fousel
Capital Program Division
tel: (510) 287-4703
fax: (510) 287-4760

We thank you for your interest in BART and your continued support of our efforts to improve and expand service throughout the Bay Area.

Sincerely,

Richard A. White
General Manager

Attachments

BAY AREA RAPID TRANSIT DISTRICT
800 Madison Street - Lake Merritt Station
P.O. Box 12688
Oakland, CA 94604-2688
Telephone (510) 464-6000

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7TH DISTRICT

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8TH DISTRICT

MICHAEL BERNICK
9TH DISTRICT

Dear SRTP/CIP Recipient:

On September 14, 1995 the BART Board of Directors adopted the District's 1995 Short Range Transit Plan and Capital Improvement Program covering the ten year period from fiscal year 1996 through 2005. These two documents identify BART's plans for service expansion and the capital projects needed to maintain and expand service levels. These final documents supersede the draft documents dated July 14, 1995 and August 28, 1995.

The SRTP and CIP are required documentation in support of BART's applications for grant funding through the Metropolitan Transportation Commission (MTC). The SRTP and CIP were developed in conformance with MTC guidelines for preparing these documents. Specifically, MTC provided projections of funding sources to be considered reasonable for planning purposes.

The SRTP contains a Summary with the main body of the document divided into four chapters:

- Chapter 1 presents a brief history of the District and its current organization, major components of its capital plant, a description of service, and information on fares.
- Chapter 2 identifies BART's goals and objectives, and presents an evaluation of service along with key events and activities which occurred in FY 95.
- Chapter 3 discusses the forecast for BART ridership and presents the service plans for rail, express bus, and ADA paratransit for the ten year period.
- Chapter 4 identifies the District's operating financial requirements and resulting deficits. Two scenarios with differing sales tax growth assumptions are presented to illustrate how the baseline deficits might be eliminated.

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FY 1995-2005
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SAN FRANCISCO BAY AREA
RAPID TRANSIT DISTRICT

SHORT RANGE TRANSIT PLAN

JULY 1995 THROUGH JUNE 2005

Fiscal Years 1996 - 2005

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Adopted September 14, 1995

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

SHORT RANGE TRANSIT PLAN

FISCAL YEARS 1996 - 2005

The preparation of this report has been financed in part through a grant from the United States Department of Transportation, Federal Transportation Administration under the Urban Mass Transportation Act of 1964, as amended and passed through the Metropolitan Transportation Commission. This report has been prepared in conformance with MTC guidelines for Short Range Transit Plans.

The contents of this report reflect the views of BART which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects.

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Adopted September 14, 1995

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LIST OF ACRONYMS

AATC	Advanced Automatic Train Control (system)
ABAG	Association of Bay Area Governments
AC	Alameda-Contra Costa Transit District
ADA	Americans With Disabilities Act
AFC	Automatic Fare Collection (equipment)
APTA	American Public Transit Association
BART	(San Francisco) Bay Area Rapid Transit District
CCCTA	Contra Costa County Transit Authority
CDV	Credit/Debit Vendor
CIP	(BART) Capital Improvement Program
CPI	Consumer Price Index
CPUC	California Public Utilities Commission
DAS	(BART) Data Acquisition System
DBE	Disadvantaged Business Enterprise
FTA	Federal Transit Administration
FTE	Full-Time Equivalents (employees)
GIS	Geographic Information System
HOV	High-Occupancy Vehicle
LAVTA	Livermore Amador Valley Transit Authority
MTC	Metropolitan Transportation Commission
MUNI	(San Francisco) Municipal Railway
OCC	(BART) Operations Control Center
PERS	Public Employees Retirement System
PFM	(BART) Passenger Flow Model
PIP	Productivity Improvement Program
SAMTRANS	San Mateo County Transit District
SLRT	Suspended Light Rail System
SRTP	(BART) Short Range Transit Plan
STA	(California) State Transportation Assistance
STEP	(BART) System Throughput Enhancement Plan
TDA	(California) Transportation Development Act
WCCTA	Western Contra Costa County Transit Authority (WestCAT)

INTRODUCTION

&

SUMMARY

BART's 1995 Short Range Transit Plan was developed and prepared in compliance with the Metropolitan Transportation Commission's SRTP guidelines. This includes the requirement that service plans be financially constrained to within levels of funding in accordance with MTC's regional forecasts and other identifiable sources. This SRTP frames the District's challenges in the coming ten years by focusing on BART's operational requirements and underlying financial outlook. In support of the service levels and operational needs presented in the SRTP is the District's Capital Improvement Program. This document provides detailed funding, programming, and other information for individual capital projects.

The SRTP is divided into four chapters. Chapter 1 presents a brief history of the BART District and its current organization, major components of its capital plant, a description of service, and information on fares. Chapter 2 identifies BART's goals and objectives, and presents an evaluation of service along with key events and activities which occurred in FY 95. Chapter 3 discusses the forecast for BART ridership and presents the service plans for rail, express bus, and ADA paratransit for the ten year period. Finally, Chapter 4 identifies the District's operating financial requirements and resulting deficits. The baseline financial forecast and resulting annual deficits are presented first. Two scenarios with differing sales tax growth assumptions are then presented to illustrate how the baseline deficits might be eliminated. The baseline forecast and two scenarios are predicated on the following assumptions.

BASELINE ASSUMPTIONS

The base case assumes 3.0% CPI in FY 96 and 3.5% in all years thereafter; sales tax revenue growth at 0.25% above CPI; implementation of deficit reduction measures for expense savings and revenue enhancements from sources other than fares; fare levels in accordance with the January 1995 adopted fare increase package; no additional fare increases after FY 97; and ridership erosion per the demand elasticity function used in the adopted fare package, with a provision for no demand erosion when fare increases are equal to or less than CPI. Also included is the expense for providing express bus service, ADA paratransit service, and bond debt service in support of system rehabilitation.

SCENARIO 1 ASSUMPTIONS

The assumptions are the same as for the baseline forecast except for the implementation of additional fare increases starting in FY 99 to balance operating budget deficits.

SCENARIO 2 ASSUMPTIONS

Under this scenario, sales tax revenue is per MTC's forecast which assumes 7.0% annual growth. This higher level of financial assistance results in lower required out-year fare increases to balance the operating budget. All other assumptions are the same as for the baseline forecast.

Highlights of BART's 1995 SRTP are presented below. The ten year financial forecasts, including the assumed fare increases for each scenario, are summarized in Figure S-1. A summary of the service plans and forecast ridership is presented in Figure S-2.

EXTENSIONS

BART's 1995 SRTP ridership and financial forecasts are based on the schedule as of Summer 1995 for the opening of new rail stations. These include North Concord/Martinez Station in Fall 1995, Colma Station in Winter 1995, Castro Valley and East Dublin/Pleasanton Stations in Summer 1996, and Pittsburg/Bay Point Station in Fall 1996. Four additional stations south of Colma are assumed to open in FY 00 as part of extending BART rail service down the Peninsula. This alignment is per *Locally Preferred Alternative VI* which includes a subway station at San Francisco Airport located beneath the international terminal building and an end-of-line station in Millbrae.

The 1995 SRTP ridership and operating financial forecasts reflect only the above rail extensions to the core system, and do not include operation of any other rail facilities and services which are identified as Priority 1 and Priority 2 projects in BART's unfunded *Track Two* Capital Improvement Program. These projects include West Dublin/Pleasanton Station, Warm Springs Extension, West Contra Costa County Extension, extensions to points further east in Contra Costa and Alameda counties, and Commuter Rail. The District will continue to seek funding for these projects, and will include corresponding operating financial requirements in subsequent SRTPs according to implementation schedules developed for these and other projects.

RIDERSHIP

BART's ridership forecast (Figure S-2) builds off of the schedule for starting extensions service as noted above. Other key considerations which figure in BART's future ridership are regional population and employment growth, and BART service levels and fares relative to the cost and ease of making similar trips by automobile.

BART's core system ridership is assumed to grow at a base rate of 1.25% annually, before adjustments to fares. This is within the lower end of the range for growth in population and employment. ABAG forecasts for the three-District counties show 1.0% average annual growth in population and 1.9% for annual growth employment. The higher growth rate for employment relative to population reflects demographic shifts and *in-commuting* of people residing in the Central Valley to jobs located in the Bay Area.

BART's forecasts for rail ridership include the impact of the adopted fare increase package and other increases included in Scenario 1 and Scenario 2. These fare increases are shown in Figure S-1. The baseline forecast calls for systemwide travel to grow from 71.8 million rail trips in FY

96 to 104.6 million trips in FY 05. Ridership for extensions is forecast to add 2.1 million trips in FY 96 to the core system's total of 69.7 million trips. This relatively small increase reflects Colma and North Concord/Martinez stations being open for only part of the fiscal year. Extensions ridership is forecast to grow to 26.6 million trips in FY 01, the first full year of operation for the initial nine-station/30-mile extensions program. By FY 05, the baseline forecast for extensions adds 29.9 million annual trips to the core system's 74.7 million trips in the same fiscal year, for a 40% gain.

As shown in Figure S-1, the additional fare increases included in Scenario 1 result in minor erosion of demand by the end of the ten year period relative to the baseline forecast. Virtually all of the 1.3% erosion is forecast to take place in FY 99 and FY 00 with two consecutive fare increases, each at slightly more than twice the rate for CPI. No erosion of demand is forecast for Scenario 2 which has three consecutive fare increases, all of which are below CPI.

SERVICE PLAN

BART's service plan is summarized in Figure S-2. As shown, decreases in the minimum scheduled headway allow for increased Transbay service frequency. In the latter half of FY 96, maximum Transbay service will consist of 18 trains per hour. Forecast demand growth will require 25 trains per hour by FY 00. This increase in frequency reflects the planned addition of a new Transbay route when service to East Dublin/Pleasanton starts in Summer 1996.

The corresponding number of online trains increases from a maximum of 48 in FY 96 to 73 in FY 00. This service expansion plan results in average train lengths somewhat shorter than today's. Future ridership growth is expected to be accommodated by this maximum train schedule by increasing train lengths. Accordingly, no further increases in service frequency or number of online trains is forecast between FY 00 and FY 05. The planned operating fleet of 714 cars is forecast to be sufficient given BART's online requirements, other service car needs, and requirements for maintenance.

This service plan is based on accommodating forecast ridership within policies regarding route headways and standards for load factors. This SRTP assumes that sufficient capacity would be provided such that load factors are no higher than what passengers currently experience. This means capacity would be scheduled based on a target of a 1.35 load factor for peak operations, 1.15 for the shoulder periods, and a maximum of 1.00 for offpeak operations.

BART's express bus service plan is based on proposed modifications to improve operating and financial performance. Included are proposals to eliminate portions of express bus routes which currently run parallel to rail extensions. Modifications to express bus routes would be coordinated with the start of new rail service.

BART will continue to implement its ADA paratransit service program, working towards full compliance by the federally mandated January 1997 date. Cost-sharing agreements currently in effect with MUNI, AC Transit, and CCCTA will be augmented by others as part of expanding BART's ADA paratransit service.

FINANCIAL FORECAST

A key long-term fiscal challenge will be for BART to address the disparity between growth for ridership and passenger revenue versus expense. As presented in this SRTP, this disparity is equal to approximately 2% per year, and includes an offset due to growth in sales tax revenue at 0.25% above CPI. This disparity reflects annual revenue growth of 1.25% versus a forecast need of 3.25% growth. The additional expense for operating extensions, meeting ADA paratransit service requirements, and providing bond debt service for system rehabilitation places additional emphasis on evaluating programs and formulating new methods for reducing expense further and enhancing revenue from sources other than passenger fares. Other efforts should focus on ways to expand the current three-county BART sales tax base to include other Bay Area counties which benefit from BART service.

BART's baseline ten year financial forecast is summarized in Figure S-1. As seen, no cumulative unfunded deficit is forecast through FY 98; the timeframe which the January 1995 adopted fare increase package was designed to address. Without any additional fare increases, annual deficits beginning in FY 99 cumulate to $294.4 million by FY 05.

As illustrated under Scenario 1, the gap between expense growth and revenue sources discussed above is made up by modest additional fare increases beginning in FY 99. These budget-balancing fare increases are identified in Figure S-1 along with the summary financial statement.

Scenario 2 illustrates the impact of higher growth for sales tax revenue, which is equal to MTC's 7.0% annual growth assumption. This is shown in Figure S-1 in the summary financial statement for this scenario. Accordingly, the needed fare increases to balance the baseline operating budget are substantially less than those for Scenario 1.

TEN YEAR FINANCIAL FORECASTS

1995 BART SHORT RANGE TRANSIT PLAN

All Dollar Figures Are In Millions

	FY 96 BUDGET	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
BASELINE										
Assumed Fare Increase (see note)	13.0%	11.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Net Passenger & Other Revenue	134.5	162.7	178.8	182.8	199.2	211.9	215.8	219.7	223.6	227.5
Operating Expense	240.1	266.9	291.9	302.3	326.3	355.2	372.1	388.3	404.9	420.9
Financial Assistance	136.7	142.7	148.2	154.9	161.8	167.7	174.0	180.4	187.6	195.2
Debt Service & Allocations	(31.1)	(32.3)	(41.2)	(48.3)	(62.5)	(62.7)	(62.9)	(63.1)	(63.4)	(63.6)
Annual Financial Result	0.0	6.1	(6.1)	(12.9)	(27.8)	(38.3)	(45.3)	(51.4)	(57.1)	(61.8)
Cumulative Balance	(0.0)	6.1	0.0	(12.8)	(40.7)	(79.0)	(124.2)	(175.6)	(232.6)	(294.4)
System Operating Ratio	56.0%	60.9%	61.2%	60.5%	61.0%	59.7%	58.0%	56.6%	55.2%	54.1%
SCENARIO 1										
Assumed Fare Increase (see note)	13.0%	11.4%	0.0%	8.5%	7.3%	4.0%	2.5%	2.0%	2.0%	1.3%
Net Passenger & Other Revenue	134.5	162.7	178.8	195.8	226.8	250.4	261.0	270.8	281.0	289.3
Operating Expense	240.1	266.9	291.9	302.3	326.3	355.2	372.1	388.3	404.9	420.9
Financial Assistance	136.7	142.7	148.2	154.9	161.8	167.7	174.0	180.4	187.6	195.2
Debt Service & Allocations	(31.1)	(32.3)	(41.2)	(48.3)	(62.5)	(62.7)	(62.9)	(63.1)	(63.4)	(63.6)
Annual Financial Result	0.0	6.1	(6.1)	0.1	(0.2)	0.2	(0.0)	(0.2)	0.3	(0.1)
Cumulative Balance	(0.0)	6.1	0.0	0.1	(0.1)	0.1	0.1	(0.1)	0.2	0.0
System Operating Ratio	56.0%	60.9%	61.2%	64.8%	69.5%	70.5%	70.1%	69.7%	69.4%	68.7%
SCENARIO 2										
Assumed Fare Increase (see note)	13.0%	11.4%	0.0%	3.1%	3.1%	3.1%	0.0%	0.0%	0.0%	0.0%
Net Passenger & Other Revenue	134.5	162.7	178.8	188.1	210.9	230.9	235.1	239.4	243.7	248.0
Operating Expense	240.1	266.9	291.9	302.3	326.3	355.2	372.1	388.3	404.9	420.9
Financial Assistance	138.0	147.5	155.9	165.8	176.1	185.8	196.2	207.1	219.0	236.5
Debt Service & Allocations	(31.1)	(32.3)	(41.2)	(48.3)	(62.5)	(62.7)	(62.9)	(63.1)	(63.4)	(63.6)
Annual Financial Result	1.4	11.0	1.6	3.3	(1.8)	(1.2)	(3.7)	(5.0)	(5.5)	(0.0)
Cumulative Balance	1.4	12.4	14.0	17.3	15.5	14.3	10.5	5.5	0.0	0.0
System Operating Ratio	56.0%	60.9%	61.2%	62.2%	64.6%	65.0%	63.2%	61.6%	60.2%	58.9%

NOTE: The fare increases through FY 98 are per the January 1995 Adopted Fare Increase Package. Each of these fare increases is effective on April 1 in the fiscal years shown. All other fare increases, from FY 99 through FY 05, are assumed to be effective as of July 1 of each fiscal year.

Figure S-2

SERVICE PLAN & RIDERSHIP SUMMARY

1995 BART SHORT RANGE TRANSIT PLAN

	FY 96 BUDGET	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
SERVICE PARAMETERS (All Scenarios)										
Transbay Trains, Peak Hour Frequency	18	21	21	21	25	25	25	25	25	25
Required Minimum Headway (minutes)	2.50	2.50	2.50	2.50	2.00	2.00	2.00	2.00	2.00	2.00
Trains Online, Peak	48	57	57	57	73	73	73	73	73	73
Cars Online, Peak	446	459	459	459	525	530	534	538	542	543
Operating Fleet Vehicles	646	650	632	632	678	678	714	714	714	714
Car Miles (millions)	47.34	54.41	54.41	54.41	58.33	62.25	62.90	63.23	64.29	64.65
Operating Staff (FTEs)	2,735	2,835	2,837	2,841	2,974	3,132	3,155	3,167	3,192	3,204
TOTAL RAIL RIDERSHIP (Millions)										
BASELINE: Core System	69.7	68.2	68.5	69.3	70.2	71.1	71.9	72.8	73.8	74.7
Extensions	2.1	11.1	11.4	12.2	20.7	26.6	27.4	28.2	29.1	29.9
Total System	71.8	79.2	79.8	81.5	90.9	97.6	99.3	101.1	102.8	104.6
Passenger Miles	919.3	1,088.6	1,100.1	1,126.1	1,288.4	1,415.9	1,443.1	1,470.8	1,499.0	1,525.0
SCENARIO 1: Core System	69.7	68.2	68.5	68.8	69.3	70.1	71.0	71.9	72.8	73.7
Extensions	2.1	11.1	11.4	12.1	20.5	26.2	27.0	27.8	28.7	29.5
Total System	71.8	79.2	79.8	80.9	89.7	96.3	98.0	99.7	101.4	103.2
Passenger Miles	919.3	1,088.6	1,100.1	1,117.3	1,271.6	1,396.9	1,423.8	1,451.1	1,478.8	1,504.6
SCENARIO 2: Core System	69.7	68.2	68.5	69.3	70.2	71.1	71.9	72.8	73.8	74.7
Extensions	2.1	11.1	11.4	12.2	20.7	26.6	27.4	28.2	29.1	29.9
Total System	71.8	79.2	79.8	81.5	90.9	97.6	99.3	101.1	102.8	104.6
Passenger Miles	919.3	1,088.6	1,100.1	1,126.1	1,288.4	1,415.9	1,443.1	1,470.8	1,499.0	1,525.0

CHAPTER 1

BART ORGANIZATION

AND

SYSTEM OVERVIEW

The San Francisco Bay Area Rapid Transit District was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. Initial efforts focused on establishing the organization for the purpose of fulfilling the *BART District Charter* which calls for the construction, operation, and maintenance of a rapid transit system in the Bay Area. Voter approval in 1962 of a $792 million general obligation bond issue in San Francisco, Alameda, and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71 mile system: the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology.

The District is governed by a Board of nine publicly elected Directors, each representing the voters in one of nine election districts within the three-county District. Board meetings are normally conducted twice each month, are subject to prior notice, and are open to the public. Directors serve on various standing and special committees to deliberate and make recommendations to the full Board. These meetings are also subject to prior public notice and are open to the public.

The organization at the staff level (Figure 1-1) reflects the current management structure designed to effectively carry out the District's programs and policies. The General Manager, General Counsel, Controller/Treasurer, and District Secretary are Board-appointed officers and report directly to the Board of Directors. Other executive staff members consist of the Deputy General Manager, three Assistant General Managers, and two Executive Managers. These six executive staff members, along with the Police Department and the Office of Civil Rights, report directly to the General Manager. Reporting to the executive staff are 30 Department Managers and their respective staffs. BART's total budgeted workforce for FY 95 was 2,817 full-time equivalent positions, 2,477 of which were for operations and 340 for capital projects.

MAJOR COMPONENTS OF BART'S CAPITAL PLANT

The 1962 general obligation bond issue provided funding for BART's core system (Figure 1-2) which includes: 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the operating fleet), 34 stations, and an administration/operations control center. Capital improvements made over the years have added to this inventory base and include a second generation fleet of 150 cars, the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland (*KE* Track), and a new central train control computer.

Track and Right-of-Way

BART is a third-rail, 1,000 volt DC, electrically powered railway. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 71 miles of continuously welded, double-mainline, 66 inch gauge track (142 miles, bi-directional). Approximately 20 miles of double-mainline track are in subway, 24 miles are elevated, and 27 miles are at grade.

BAY AREA RAPID TRANSIT DISTRICT
FISCAL YEAR 96 BUDGET

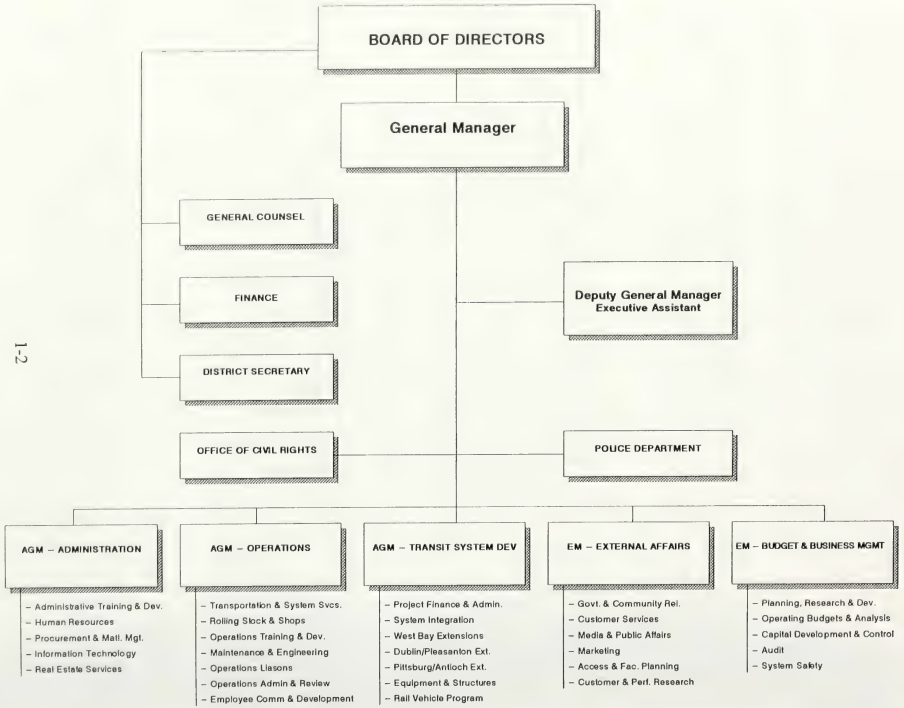

Figure 1 - 1

BART System Map

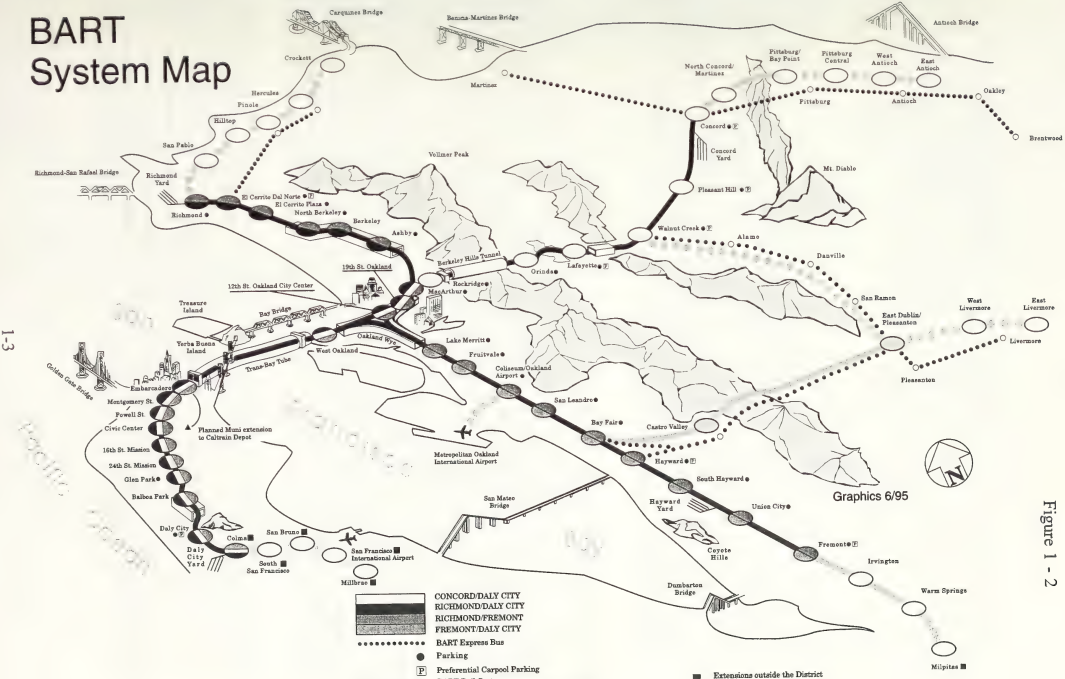

Figure 1 - 2

There are 54.5 miles of additional single track located in yards, sidings, and other locations. All but 3.2 miles of this latter amount are at grade, and include leads and sidings located in the four maintenance yards. The remaining 3.2 miles largely consist of the KE track through downtown Oakland which is 1.8 miles in subway. A special track geometric vehicle is used to analyze the running rails and electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and a smooth operating surface. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards

Both planned preventative maintenance and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward, and Richmond), and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward shop also performs accident damage component and heavy repairs. A fifth maintenance facility located between Lake Merritt and Fruitvale Stations (Oakland Shops) provides support to buildings and grounds and equipment other than rail vehicles.

Revenue Vehicles

BART owns three types of revenue vehicles: control equipped A- and C-cars, and non-control equipped B-cars. A- and B-cars are BART's first generation vehicles, manufactured between 1971 and 1975. C-cars constitute BART's second and third generation fleet. C1-cars were manufactured between 1987 and 1990, and newer C2-cars in 1995. Control equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 by 10.5 feet, and can be used as lead, mid-train, or trail vehicles. Trains are operated from the lead A- or C-car. Train movements are automatically controlled by computers located along the right-of-way. System train supervision is provided by BART's train control computer at the Operations Control Center located in the Lake Merritt Administration Building in downtown Oakland. Train operators aboard each train can override the automatic system should the need arise.

As of the end of FY 95, BART owned 612 vehicles consisting of: 135 A-cars, 7 of which were accident damaged, 2 out for rehabilitation, and 10 in long term storage and 1 used as engineering test vehicle; 304 B-cars, 2 accident damaged; 150 C1-cars, 2 accident damaged and 1 converted to an engineering car as part of the C2-car manufacturing process; and 23 new C2-cars delivered and accepted out of an 80-car order from Morrison-Knudsen. Permissible train lengths range from three to ten cars. [The three-car minimum train length is a California Public Utilities Commission requirement. The ten-car maximum length corresponds to station platform lengths.] Resulting capacity is between 192 and 720 seated passengers for three and ten-car trains,

respectively. Vehicle performance specifications include a maximum 80 mile per hour speed. Revenue service is based on a 70 mile per hour maximum speed, with the 80 mile per hour capability reserved for maintaining schedule adherence. The systemwide average speed for revenue service, including stations stops, is 35.2 miles per hour.

Stations and Parking

At the end of FY 95, the system had 34 stations, 14 of which are in subway, 13 elevated, and 7 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. Stations are spaced between one half to one mile apart within and adjacent to San Francisco, Oakland, and Berkeley downtown areas, and two to four miles apart in suburban areas.

Stations are fully accessible and have elevators and escalators in addition to stairways which link various levels to streets, connecting local transit, and parking areas. In downtown San Francisco and Oakland, special subway station entrances provide direct access to retail establishments. Other passenger amenities include restrooms fully accessible to persons with disabilities which are located in the paid area of each station.

Automatic fare collection equipment is located in each station to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information with regard to train schedules, local area destinations, connecting transit, and other information to assist BART riders. A public address system linked to BART headquarters is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Depending upon location, station access facilities include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks, and parking. Parking is an important feature at suburban stations where a majority of BART riders arrive by auto. As of June 1995, BART's parking inventory (Figure 1-3) consisted of 33,163 free spaces at 23 stations and 205 spaces at Lake Merritt Station at a daily charge of 25¢. Free parking is also provided at four BART express bus park-ride lots, which contain a total of 697 spaces.

Administration/Operations Control Center

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland above Lake Merritt Station. This facility also houses BART's central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer at BART headquarters provides overall systemwide supervision of train movements. BART's Operations Control Center (OCC) is an around-the-

Figure 1 - 3

BART PARKING SPACE INVENTORY
SPACES ADDED DURING FISCAL YEAR 1995

(a)

LINE AND STATION	NUMBER OF PARKING SPACES AS OF JUN 1994	PLANNED FOR FY 95	ADDED IN FY 95	AS OF JUN 1995
SAN FRANCISCO LINE				
Daly City	2,228	0	0	2,228
Glen Park	55	0	0	55
West Oakland	424	0	0	424
SUBTOTAL	**2,707**	**0**	**0**	**2,707**
FREMONT LINE				
Fremont	2,494	0	0	2,494
Union City	1,218	0	0	1,218
South Hayward	1,307	0	0	1,307
Hayward	1,061	650	878	1,939
Bay Fair	1,903	0	0	1,903
San Leandro	1,295	0	0	1,295
Coliseum	1,059	0	0	1,059
Fruitvale	1,103	0	0	1,103
Lake Merritt (b/c)	205	0	0	205
SUBTOTAL	**11,645**	**650**	**878**	**12,523**
RICHMOND LINE				
Richmond	796	0	0	796
El Cerrito del Norte (c)	2,516	0	0	2,516
El Cerrito Plaza	795	0	0	795
North Berkeley (c)	840	0	0	840
Asby	626	0	0	626
MacArthur	609	0	0	609
SUBTOTAL	**6,182**	**0**	**0**	**6,182**
CONCORD LINE				
Concord	1,975	600	543	2,518
Pleasant Hill	3,245	0	0	3,245
Walnut Creek (c)	1,518	775	885	2,403
Lafayette (c)	1,521	0	0	1,521
Orinda (c)	1,380	0	0	1,380
Rockridge (c)	889	0	0	889
SUBTOTAL	**10,528**	**1,375**	**1,428**	**11,956**
RAIL TOTAL	**31,062**	**2,025**	**2,306**	**33,368**
EXPRESS BUS PARK/RIDE				
West Pittsburg (d)	213	0	(13)	200
East Antioch	252	0	0	252
West Livermore	153	0	0	153
Brentwood (e)	0	92	92	92
EXPRESS BUS TOTAL	**618**	**92**	**79**	**697**
SYSTEM GRAND TOTAL	**31,680**	**2,117**	**2,385**	**34,065**

(a) Data are for BART-owned paved facilities at existing rail stations and express bus park/ride lots.
(b) A $0.25 parking charge is in effect at Lake Merritt Station. All other BART-owned parking is free for BART customers.
(c) Walnut Creek, Lafayette, Orinda, Rockridge, El Cerrito del Norte, North Berkeley, Lake Merritt subject to parking controls.
(d) Relocation of park/ride lot resulted in a loss of 13 spaces.
(e) The Brentwood park/ride lot opened on April 1, 1995.

clock operation. Train controllers and other BART certified personnel located in OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between OCC and all train operators. A separate telephone system provides voice communication to station agents. Remote cameras located at key points allow OCC personnel to visually monitor train movements and station activities.

BART RAIL SERVICE DESCRIPTION

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. Closing times for individual stations are coordinated with the schedule for the last train departure beginning approximately at midnight (Figure 1-4). The following is a description of BART rail service. BART express bus service is coordinated with the rail schedule. A description of express bus service is presented in a separate section following that for rail. BART also provides service in accordance with the Americans With Disabilities Act (ADA). A description of this service follows express bus.

Early Morning Rail Service - Weekdays

Weekday service begins at approximately 4:00 a.m., with the first four train dispatches of the day from each of the system's four terminal stations. These trains operate on the Concord-Daly City and Fremont-Richmond routes. This service configuration is also known as *two-route X service*, and requires a transfer in downtown Oakland for trips which at other times are served by the Fremont-Daly City and Richmond-Daly City routes. A second set of four trains on the Concord-Daly City and Fremont-Richmond routes is dispatched 30 minutes later at approximately 4:30 a.m. At approximately 5:00 a.m., service transitions to four-route weekday base service, which continues until the start of morning peak service at about 6:00 a.m. Base daytime rail service on weekdays consists of 15-minute headways on each of the four routes in both directions: the three Transbay routes between Daly City and Concord, Fremont, and Richmond, and the East Bay route between Fremont and Richmond.

Peak Period Rail Service - Weekdays

Peak period service corresponds to weekday commute hours, typically between 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m. Monday through Friday. During these times, trains are operated at closer headways than during base service in order to provide sufficient capacity to meet higher home-to-work travel demand. During the morning commute, there are 43 trains in operation systemwide, providing service at a minimum scheduled headway of 3.0 minutes, during the peak one hour through San Francisco and downtown Oakland. This same minimum headway service is operated during the afternoon commute period. Peak service currently requires 454 vehicles, 406 online and 48 additional cars used for ready reserve trains and yard moves. All Transbay trains are at their 10-car maximum length during peak commute hours.

Figure 1 - 4

BART RAIL HEADWAYS AND HOURS OF SERVICE

	TRANSBAY ROUTES			EAST BAY	CITY CENTER LINE SEGMENT	
	Concord-Daly City	Fremont-Daly City	Richmond-Daly City	Fremont-Richmond	San Francisco	Downtown Oakland
***HEADWAYS** (minutes)*						
WEEKDAY						
Peak Hour	7.5	12.0	15.0	15.0	3.0	3.0
Midday	15.0	15.0	15.0	15.0	5.0	5.0
Night	20.0	*	*	20.0	20.0	10.0
SATURDAY						
Daytime	20.0	20.0	20.0	20.0	6.7	6.7
Night	20.0	*	*	20.0	20.0	10.0
SUNDAY						
All Day	20.0@	*	*	20.0	20.0@	10.0@
***SERVICE HOURS** (time)*						
WEEKDAY						
First Train lv	0400	0441#	0454#	0354	0411	0430
Last Train ar	0120	2115#	2053#	0126	0106	2455
SATURDAY						
First Train lv	0605	0610	0605	0603	0600	0607
Last Train ar	0120	2020#	1957#	0126	0109	2452
SUNDAY						
First Train lv	0802	*	*	0811	0815	0804
Last Train ar	0119	*	*	0125	0106	2451

Notes: * Denotes a route not in service during the identified time period. # Indicates that earlier and/or later service is available on other routes. In both instances (* and #), travel is accommodated on other routes with one transfer in downtown Oakland.
@ Indicates supplemental midday *Double Header* trains serving Oakland and San Francisco stations.

Two additional peak period trains were placed in service in July 1995. These 5-car trains make one run each between Concord and South Hayward stations in the morning peak period and make the reverse runs in the afternoon peak. The primary goal of this additional service is to provide direct access to downtown Oakland from Contra Costa County as a congestion mitigation measure for freeway construction located in the vicinity of the I-680/24 interchange. The car and train requirements for this temporary service is not included in Figure 1-4 or other figures in this document.

Base Rail Service - Weekdays, Daytime

The transition back to base service begins during the last hour of the morning peak, at approximately 8:00 a.m. Base service, which consists of 15-minute headways on each route in both directions, continues until approximately 3:00 p.m. when afternoon commute dispatches begin. Base weekday service requires a total of 35 trains operating on the system: nine trains on each of the Concord-Daly City, Fremont-Daly City, and Richmond-Fremont routes; and eight trains on the Richmond-Daly City route. Trains stop at all stations along their designated route. The systemwide average speed for revenue service, including stations stops, is 35.2 miles per hour. As for all service periods, trains are sized to accommodate demand in compliance with the load factor standards established by the Board of Directors.

Base Rail Service - Nights

Base night service consists of bi-directional 20-minute train headways on two routes: Concord-Daly City and Fremont-Richmond. This *two-route X service* requires a transfer in downtown Oakland for trips which at other times are served by the Fremont-Daly City and Richmond-Daly City routes. BART's train schedule allows transfers with a minimum of passenger waiting via timed train arrivals at 12th Street and MacArthur stations in Oakland. Base night service requires a total of 16 online trains beginning at approximately 7:00 p.m. with four terminal-station dispatches (two trains on each route providing service in both directions). The last four terminal-station train dispatches occur at or just after midnight. All four of these last trains meet and hold at MacArthur Station to insure that all passengers requiring a transfer are able to do so. These last trains end their runs at approximately 1:30 a.m. Individual station closings are coordinated with the schedule for these trains as they pass through stations.

Base Rail Service - Weekends and Holidays

Base daytime Saturday service consists of 28 trains online, operating at 20-minute headways on all four routes between the hours of 6:00 a.m. and 6:00 p.m. After 6:00 p.m., base night service is in effect until closing. Base Sunday rail service consists of 16 trains online, operating at 20-minute headways on a *two-route X service* schedule (the same as Base Night Service) between the hours of 8:00 a.m. and closing. BART's Sunday schedule is supplemented by midday *Double Header* train service. This consists of Transbay trains operating at a 20-minute headway between MacArthur Station in Oakland and Daly City Station between 11:00 a.m. and 6:00 p.m. Except

Figure 1 - 4

BART RAIL HEADWAYS AND HOURS OF SERVICE

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	Concord-Daly City	Fremont-Daly City	Richmond-Daly City	Fremont-Richmond	San Francisco	Downtown Oakland
***HEADWAYS** (minutes)*						
WEEKDAY						
Peak Hour	7.5	12.0	15.0	15.0	3.0	3.0
Midday	15.0	15.0	15.0	15.0	5.0	5.0
Night	20.0	*	*	20.0	20.0	10.0
SATURDAY						
Daytime	20.0	20.0	20.0	20.0	6.7	6.7
Night	20.0	*	*	20.0	20.0	10.0
SUNDAY						
All Day	20.0@	*	*	20.0	20.0@	10.0@
***SERVICE HOURS** (time)*						
WEEKDAY						
First Train lv	0400	0441#	0454#	0354	0411	0430
Last Train ar	0120	2115#	2053#	0126	0106	2455
SATURDAY						
First Train lv	0605	0610	0605	0603	0600	0607
Last Train ar	0120	2020#	1957#	0126	0109	2452
SUNDAY						
First Train lv	0802	*	*	0811	0815	0804
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for minor schedule and train length modifications, BART provides the following service schedules on holidays:

CELEBRATED HOLIDAY	SCHEDULE
New Years Day	Sunday
Martin Luther King Day	Weekday
Presidents' Day	Saturday
Memorial Day	Sunday
July 4th	Sunday
Labor Day	Sunday
Columbus Day	Weekday
Veterans' Day	Weekday
Thanksgiving	Sunday
Day After Thanksgiving	Weekday
Christmas	Sunday

Special Rail Service

BART service is coordinated with major Bay Area events. Additional service for special events is provided in three ways. The first is by lengthening regularly scheduled trains which are less than 10 cars long. This method works well during offpeak times, when nearly all trains are less than the 10-car maximum length, and when BART patron demand to a particular event does not warrant higher train frequencies. For events which require greater capacity and/or frequency of service, additional trains are placed in operation. This second method of adding service and capacity is typically implemented when the demand for BART service associated with an event is sharply peaked, such as following the end of a baseball game, rock concert, or other event having a large attendance. The third way BART accommodates service to special events is to provide revenue operations at times when the system is normally closed, such as an early-Sunday morning opening as is done for the annual Bay-to-Breakers footrace in San Francisco. Examples of special BART service include: extended hours of operation on New Year's Eve; longer and more trains to serve athletic/special events at the Oakland Coliseum, U.C. Berkeley, and San Francisco Civic/Convention Center; and a special 5 a.m. Sunday morning opening and trains to the start of the *Lifespan* footrace/walk across the Bay Bridge.

EXPRESS BUS SERVICE DESCRIPTION

As an interim measure until rail extensions service begins, BART provides express bus service on 12 routes within four major travel corridors in Alameda and Contra Costa Counties as shown in Figure 1-5 and the table below. An additional route, not shown in Figure 1-5, is the *JX* express bus route which is funded by Caltrans through June 1997. This service is a construction mitigation measure related to I-80 improvements currently underway. Service on this route is provided weekdays during peak commute periods only between El Cerrito del Norte Station and Pinole and Hercules.

Figure 1 - 5

BART EXPRESS BUS HEADWAYS AND HOURS OF SERVICE

An Asterisk (*) Denotes No Service Provided During Time Period Shown

	LIVERMORE VALLEY & BAY FAIR & HAYWARD STATIONS				EASTERN CONTRA COSTA & CONCORD STATION				WALNUT CREEK & DUBLIN STATIONS		RODEO & DEL NORTE	
	U	UL	UP	UX	PE	PE1	P2X	ME	D	DX	J	Q
HEADWAYS *(minutes)*												
WEEKDAY												
Peak Hour	30	30	30	30	30	30	*	30	*	30	30	30
Midday	30	60	*	*	60	60	*	*	*	60	40	*
Night	60	*	*	*	*	*	60	60	*	60	40	*
SATURDAY												
Daytime	30	*	*	*	*	*	60	*	40	*	30	*
Night	60	*	*	*	*	*	60	60	60	*	40	*
SUNDAY												
Daytime	60	*	*	*	*	*	60	60	60	*	40	*
Night	60	*	*	*	*	*	60	60	60	*	*	*
SERVICE HOURS *(time)*												
WEEKDAY												
First Bus lv	0525	0446	0452	0535	0512	0418	2030	0535	*	0437	0451	0518
Last Bus ar	0041	2000	1929	1937	2107	2148	0203	0050	*	0025	0049	2056
SATURDAY												
First Bus lv	0605	*	*	*	*	*	0600	0428	0607	*	0656	*
Last Bus ar	0023	*	*	*	*	*	0203	0043	0111	*	0029	*
SUNDAY												
First Bus lv	0840	*	*	*	*	*	0700	0926	0824	*	1012	*
Last Bus*ar	0023	*	*	*	*	*	0200	0025	0111	*	1926	

All express bus service is coordinated with BART rail schedules, and is provided under contract with Laidlaw Transit. As shown in Figure 1-3, a total of 697 free parking spaces is currently provided at four express bus park-ride lots, which are located on future extension station sites: West Pittsburg (200 spaces), East Antioch (252 spaces), West Livermore (153 spaces) and Brentwood (92 spaces).

BART EXPRESS BUS CORRIDORS

I-80	Between El Cerrito del Norte Station and Pinole, Hercules, and Rodeo.
SR-4	Between Concord Station and Martinez in central Contra Costa County, and between Concord Station and Pittsburg, Antioch, and Brentwood in the eastern portion of the county.
I-680	Between Walnut Creek Station and Dublin and Pleasanton.
I-580	Between Bay Fair and Hayward Stations and Dublin, Pleasanton, and Livermore.

ADA PARATRANSIT SERVICE DESCRIPTION

The following describes BART funded ADA paratransit service as of June 1995. BART's ADA program is currently being phased in, with a target of achieving full compliance by January 1997. As such, service will be substantially augmented as plans are implemented.

BART began to provide ADA paratransit service in FY 95 through special agreements with local transit agencies within BART's service area. BART funded ADA paratransit service currently includes areas served by the San Francisco Municipal Railway (MUNI) in the West Bay, and AC Transit and Contra Costa County Transit (CCCTA) in the East Bay. In accordance with ADA regulations, this service is provided to persons with qualifying disabilities for travel which may require up to one-day's advance notice. Hours of operation are the same as for BART's regularly scheduled rail service.

In San Francisco, paratransit services are provided on a door-to-door basis by private firms which operate taxis, sedans, and/or accessible vans. Customers may telephone any of the participating paratransit providers. Most requests for paratransit service in San Francisco may be made at the time of need, similar to requesting taxi service. ADA paratransit service is operated by one provider throughout most of Contra Costa County and within some portions of southern and eastern Alameda County. In these areas, customers requesting paratransit service must call at least one day in advance.

BART FARE COMPONENTS AND TICKET PRICES

Components of BART's fare structure are shown in Figure 1-6. The following presents information on BART fares for rail, express bus, and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula. Surcharges are applied for Transbay travel and trips originating from or destined to Daly City Station, which is located in San Mateo County (San Mateo County does not currently provide operating subsidies, as do the three-member BART counties). An additional *speed-premium* adjustment is made to fares which is based on the scheduled speed of a trip versus the systemwide average. BART's most recent fare increase took effect on April 1, 1995. The base rail fare is currently 90¢ for the shortest trips and trips within downtowns and other local areas. As shown in Figure 1-7, the highest rail fare is currently $3.45 for the 36-mile Transbay trip between Fremont and Daly City. The average rail passenger fare net of discounts is currently $1.43.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 can ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may purchase a $32 high-value ticket for $30, a savings of 6.25%.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/MUNI FastPass allows unlimited use of San Francisco Municipal Railway services and BART within the City of San Francisco. As of June 1995, the price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART, BART express bus and other Bay Area transit systems which serve BART rail stations. An additional multi-operator fare instrument is TransLink. This is a joint ticket for BART, BART Express Bus, and Contra Costa County Transit Authority (CCCTA), and provides transfer discounts. Features of these and other fare instruments are summarized in Figure 1-6.

Fares for BART express bus and ADA paratransit service are also shown in Figure 1-6. ADA fares for paratransit service funded through the joint BART/AC Transit *East Bay Paratransit Consortium* are distance based and range from $1.75 for trips less than eight miles to a maximum of $5.25 for trips of up to 24 miles. These fares went into effect on August 10, 1995 and are expected to increase per general BART fare increases. Fares for ADA service in other areas are set by local transit agencies, and are approximately $1.00. ADA paratransit fares may be paid in cash or qualifying *scrip* vouchers in some service areas.

Figure 1 - 6

BART FARE COMPONENTS AND TICKET PRICES

June 1995

TRIP LENGTH:	Up to 6 miles	90¢
	Between 6 and 14 miles [1]	$1.06 + .079¢/mile
	Over 14 miles	$1.69 + .047¢/mile
SURCHARGE:	Transbay	52¢
	Daly City [2]	60¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time	±2.9¢/minute
RESULTING FARES:	Range [3]	90¢ to $3.45
	Average fare (before discounts) [4]	$1.67
	Average fare paid (after discounts) [4]	$1.43
RAIL FARE DISCOUNTS & SPECIAL FARES: [5]	Children under 5	Free
	Children 5 through 12 (75% discount)	$4.00 ($16 value)
	Persons 65 and over (75% discount)	$4.00 ($16 value)
	Persons with qualifying disability (75% disc.)	$4.00 ($16 value)
	Regular adult (6.25% discount)	$30 ($32 value)
	Excursion (entry/exit, same station) [6]	$3.00
STORED VALUE JOINT TICKET: [7]	TransLink (last ride bonus)	$30 or $60 value
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [8]	$28-$61 (8 denom)
MONTHLY RAIL/ SF MUNI PASS: [9]	Fast Pass -- (unlimited monthly use of BART and MUNI within San Francisco)	$35
ONE-WAY TRANSFERS TO: [10] **(issued at rail stations)**	BART Express Bus -- Zone 1	35¢ (85¢ base fare)
	Zone 2	80¢ ($1.30 base fare)
	CCC Transit Authority	50¢ ($1.00 base fare)
	Union City Transit	25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM: [10] **(issued at rail stations)**	AC Transit -- From BART	$1.00 ($1.25 base fare)
	To BART	$1.00 ($1.25 base fare)
	SF MUNI, within SF--From BART	$1.00 ($1.00 base fare)
	To BART	Free ($1.00 base fare)
	SF MUNI, Daly City Station--From BART	Free ($1.00 base fare)
	To BART	Free ($1.00 base fare)
BART EXPRESS BUS: (1 Zone/2 Zone)	Children under 5	Free
	Children 5 through 12	15¢/35¢
	Regular Adult	85¢/$1.30
	Persons 65 and over	15¢/35¢
	Persons with a qualifying disability	15¢/35¢
ADA SERVICE: [11]	East Bay Paratransit Consortium	$1.75-$5.25
	BART/MUNI Cost-Sharing Agreement	90¢ approximately
	All other areas	$1.00 approximately

Figure 1-6 (continued)

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (Concord-Orinda, Fremont-Bay Fair, Richmond-Ashby) priced at fare indicated for trips under 6 miles.

2. The Daly City surcharge does not apply to Transbay trips.

3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The current range of fares is based on the most recent fare increase which occurred on April 1, 1995. Prior fare increases occurred on January 1, 1986, September 8, 1982, June 30, 1980, and November 3, 1975.

4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco MUNI Fast Pass. The figures shown are for FY 95.

5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program (as of June 1995, there were 189 BART ticket outlets plus an additional 153 outlets covered under the MTC-sponsored Regional Transit Connection). In-station sales booths at Montgomery, Embarcadero, 12th Street, and Concord also sell a variety of ticket types. BART's Pass Office at Lake Merritt Station sells all ticket types and includes mail orders.

6. There is a three-hour limit on the excursion fare.

7. TransLink features a last ride bonus which allows riders to complete one final BART trip of any length with a minimum of 5¢ of stored value remaining on the ticket. This joint ticket is valid on BART rail, BART Express Bus (roundtrip discount of $1.25) and Contra Costa County Transit Authority (roundtrip discount of $1.35). Additional transit operators will be added in later phases.

8. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides on BART express buses and eight other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, MUNI, SamTrans, Contra Costa County Transit Authority, Santa Clara County Transportation Agency, Union City Transit, Dumbarton Express, and Martinez Link. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.

9. BART began accepting the regular adult MUNI Fast Pass for BART travel within San Francisco on April 1, 1983 (discounted Fast Passes are not valid on BART). Fast Passes are sold at stores, places of employment, and other MUNI sales outlets in San Francisco.

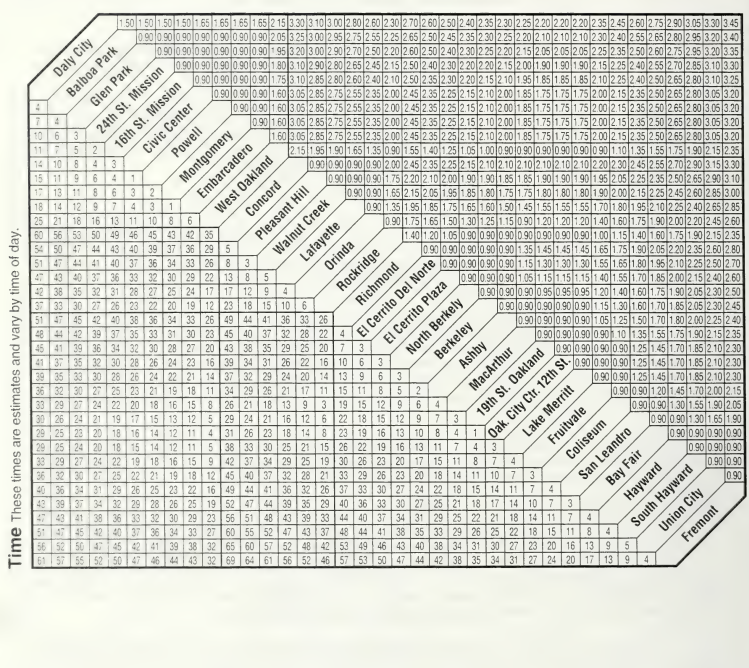
10. Except for the two-part $1.00 (round trip) MUNI transfers issued in San Francisco stations, all other zone-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare. The fare savings with the transfer is equal to the base fare less the additional fare paid to the connecting transit system.

11. BART and AC Transit have formed the East Bay Paratransit Consortium, which provides service to eligible BART customers in service areas that overlap with AC Transit. BART has also executed a cost-sharing agreement with San Francisco which permits eligible BART customers to use paratransit service provided by MUNI for travel within the City and County of San Francisco.

Figure 1-7

BART FARES AND TRAVEL TIMES

(Reflects Most Recent Fare Increase Effective April 1, 1995)



Time These times are estimates and vary by time of day.

Fares These fares are subject to change. Please verify prior to purchase.

CHAPTER 2

GOALS & OBJECTIVES

and SERVICE EVALUATION

Throughout its history, BART's mission has been to deliver safe, reliable, customer-oriented transportation. With more than two decades of operational experience following its engineering and construction phases, BART continues to be guided by those key descriptive words: safe, reliable, customer oriented. Evolution of BART has been greatly influenced by challenges presented on many fronts, including those relating to technology, fiscal requirements, and political realities.

BART has continually set high standards for itself as embodied by the District's goals and objectives. Central to achieving prescribed standards is the importance the organization places on nurturing a talented and dedicated workforce, one capable of maintaining the system while forging ahead in preparation for meeting the challenges of the future. As such, the organization's effectiveness is directly related to its policies and procedures to promote positive change.

The evaluation of BART service and programs as presented in this chapter is structured around the policy framework that guides current operations and development of new services. BART's goals (Figure 2-1) are the fundamental policy statements which provide focus and help establish priorities among existing and new programs. Specific performance indicators and standards (Figure 2-2) are identified and discussed in terms of evaluating how successful the organization has been in addressing its goals.

Special SRTP topics are also discussed as they relate to the goals. These include: capital program planning and implementation, congestion management planning, emergency contingency planning, DBE and Title VI compliance, accessibility for the elderly and persons with disabilities, and privatization.

GOAL 1

Provide Safe, Reliable, High-Quality and Economical Transportation Service to the Bay Area Community

BART's first goal follows directly from its mission statement which is to deliver safe, reliable, customer-oriented transportation. The focus is train performance which requires achievement of high performance standards for all aspects of BART operations. Programs are implemented and actions routinely performed to ensure that BART's customers experience high-quality service, and as a marketing tool to win new customers.

SAFETY & SECURITY

BART operating procedures are governed by stringent safety standards. BART's Safety Department works closely with the California Public Utilities Commission (CPUC), as well as internally with BART operations, maintenance, engineering, and other departments to ensure continued compliance with all prescribed safety standards and procedures.

Figure 2-1

BART GOALS

1. Provide safe, reliable, high-quality and economical transportation service to the Bay Area community.

2. Deliver user-friendly services to all our customers.

3. Empower employees to function as owners of the BART organization.

4. Provide an environment free of impediments to opportunities for employees and disadvantaged business enterprises, and one which encourages cooperation and develops an organizational team of highly motivated staff.

5. Develop BART services and facilities to expand District markets and capture new revenue sources.

6. Secure and manage the funds necessary to maintain and expand the system and to operate BART according to fiscally sound business practices.

7. Take the leadership role in integrating various features of regional transportation systems in policy, finance, and operations.

8. Build constituencies at all levels of government to support the BART organization and its programs.

Figure 2 - 2

BART PERFORMANCE INDICATORS AND STANDARDS
FY 1995 Performance Summary

PERFORMANCE INDICATORS	ACTUAL	STANDARD	STATUS (a)
1. RIDERSHIP: TOTAL TRIPS	72,045,140	73,260,000	NOT MET (b)
AVERAGE WEEKDAY TRIPS	248,169	252,500	NOT MET (b)
2. CARS AVAILABLE AT 4 AM: A-CARS	87	86	EXCEEDED
B-CARS	243	248	NOT MET
C-CARS	116	119	NOT MET
TOTAL FLEET	446	453	NOT MET
3. PEAK 5-MINUTE DELAYS (Per 100 Train Runs): DELAY EVENTS	2.75	3.00	EXCEEDED
DELAYED TRAINS	9.40	8.00	NOT MET
4. PEAK PERIOD/PEAK DIRECTION TRANSBAY CAR THROUGHPUT (%)	98.8	97.5	EXCEEDED
5. LOAD FACTORS: AM & PM 3-HR PEAK PERIODS	1.10	1.15	MET
OFFPEAK (All Midday & Night Trains)	0.55	1.00	MET
6. PASSENGER ON-TIME PERFORMANCE (%): DAILY	92.9	94.0	NOT MET
PEAK	91.9	(c)	n.a.
7. PASSENGER ACCIDENTS (Annual Rate--Incidents/Million Trips)	12.9	17.7	EXCEEDED
8. AFC PERFORMANCE (Incidents/1,000 Trips)	0.25	0.30	EXCEEDED
9. FAREBOX RATIOS (%): RAIL	49.2	47.1	EXCEEDED
EXPRESS BUS	16.7	16.7	MET
TOTAL OPERATION	47.6	45.6	EXCEEDED
10. SYSTEM OPERATING RATIO (%)	53.4	50.5	EXCEEDED
11. RAIL COST PER PASSENGER MILE (Cents)	23.0	23.3	EXCEEDED
12. SYSTEM UTILIZATION (%--Passenger Miles/Revenue Seat Mile)	29.6	28.5	EXCEEDED

Notes:

(a) A standard is judged to be met if the ratio of actual to desired performance is within 0.5% of a minimum-threshhold standard (e.g., Total Trips, Passenger On-time, etc.). The reciprocal of this calculation is taken where the standard is a maximum threshold (e.g., AFC Performance, Rail Cost Per Passenger Mile, etc.)

(b) The standard for total trips and average weekday trips is per the revised budget and reflects erosion of ridership due to higher fares effective April 1, 1995.

(c) There is no specified standard for peak period passenger on-time performance. However, BART Board policy calls for the reporting of actual performance quarterly.

Emergency Preparedness

During FY 95, safety coordination efforts with local fire departments serving BART were intensified. This included activities within the training and certification programs. Contingency planning efforts and emergency preparedness exercises continued to be conducted on a regular basis. These involved local fire departments, first aid units, and other emergency service providers. Also in FY 95, efforts were initiated to revise the *Operations Rules and Procedures Manual* and *System Safety Program Plan* to include soon-to-be-implemented extensions service. Activities in the area of contingency safety planning also included revisions to BART's *Emergency Plan.* This plan identifies alternative procedures and actions which may need to be taken by transportation, maintenance, BART Police, local fire departments, and other emergency service providers. The *Emergency Plan*'s purpose is to aid in providing the most effective responses to variety of emergencies that may occur within the BART system.

Passenger Accidents

BART's objective for passenger accidents (Figure 2-2, performance objective 7) is to achieve a rate of no higher than 17.7 accidents per million passengers. FY 95's accident rate was 27.1% below this standard, at 12.9 accidents per million passengers.

BART Police

The District's commitment to providing a safe and secure travel environment includes the staffing and operation of a full-service police force consisting of 166 sworn officers and 71 civilian employees. The BART Police Department is responsible for all aspects of law enforcement which includes investigation of crimes, crime prevention, and crowd control. The department is organized into four police zones to provide more effective coverage of the system while also providing service that relates directly to the local communities it serves. As part of the department's decentralization, BART's first police substation was opened at Powell Street Station in February 1995.

SERVICE RELIABILITY

Stringent preventative maintenance procedures, efficient parts procurement and inventory methods, and technical expertise developed over the years have been instrumental in the achievement of high reliability standards.

Car Availability

During FY 95, an average of 446 vehicles were made available for service each day by 4 a.m. This is 1.6% under the target of 453 cars (Figure 2-2, performance objective 2). An increase in the number of equipment checks imposed in FY 95 for the purpose of increasing vehicle reliability placed additional demands on shop output during the year.

Train Delays

Maintenance efforts focus on minimizing incidents which cause train delays. BART's objective is to achieve a rate no higher than three train delay events for every 100 dispatches, or 3% (Figure 2-2, performance objective 3). FY 95's train delay event rate was a favorable 2.75%. A related objective is to ensure that the delay events result in no more than 8% of trains from being delayed more than five minutes. The actual rate for FY 95 was 9.40%, and reflects the severe rains between October 1994 and March 1995 which necessitated slower than normal speeds. Train delays due to weather-related slower speeds accounted for 38% of all train delays, far greater than in any prior year.

Mean-Time-Between Delays

Also in support of BART's delay-reduction program were efforts in FY 95 to increase the mean-time-between service delays. A key focus has been to reduce vehicle failures to no more than one every 1,200 car hours. Actual performance in FY 95 was favorable with one delay every 1,127 car hours. Over the last three years, performance with respect to this measure has improved about 10% annually. BART's captive fleet program continued to assist in reducing vehicle caused delays. Under this program, individual cars are assigned to specific maintenance yards, resulting in more effective control and attention to vehicle failures.

On-Time Performance

Passenger on-time performance is defined as the percentage of customers arriving at their destination stations within five minutes of the scheduled train-run times. As noted above, service in FY 95 was impacted by unusually heavy winter rains which required slower than normal average speeds. FY 95 passenger on-time performance of 92.2% reflects this, which is below the standard of 94% (Figure 2-2, performance objective 6).

Compared to passenger on-time, train on-time performance in FY 95 averaged 89.1% for all operations and 86.2% for peak periods. Weather conditions and speed reductions noted above precluded achievement of train on-time performance in the range of 94% to 97% as for prior years.

Load Factors

Passenger demand at peak screenlines is monitored continually. Within headway and train-length constraints, appropriate train capacity is scheduled to meet demand. BART's Data Acquisition System (DAS) and automated train history files provide the data for the Passenger Flow Model (PFM) which is used in the analysis and reporting of load factors, or the ratio of on-board passengers to train seats. Peak load factors are measured over a three-hour period, one in the

morning and one in the afternoon. Each three-hour peak period consists of a peak one-hour maximum demand and a *shoulder* period of two hours duration.

Morning and afternoon peak period load factors averaged 1.10 during FY 95, versus a target of no higher than 1.15. Offpeak service load factors averaged 0.55 compared to a standard of no higher than 1.00 (Figure 2-2, performance objective 5). Detailed load factor data by route for the April-June 1995 quarter are presented in Figure 2-3 and Figure 2-4.

GOAL 2
Deliver User-Friendly Service to All Our Customers

This goal speaks to providing efficient, equitable, and accessible service. This includes maintaining and enhancing customer relations, and making information readily available; coordinating services, fares, and transfers among operators; meeting federal mandates for ADA paratransit service and Title VI programs; and, improving overall station accessibility.

CUSTOMER RELATIONS AND INFORMATION

BART staff receive special training to assist them in responding to customer questions and needs. A new program implemented in FY 95, called *Customer Connections*, focuses on enhancing communication between BART customers and staff. Additionally, recently implemented procedural enhancements to BART's telephone information center resulted in an increased response rate to customer inquiries from approximately 60% in FY 94 to 90% in FY 95.

A variety of brochures is available to riders at bins located near station agents booths, entry/exit gates, kiosks, and other locations. Recently updated brochures provide information concerning how to use the system, fares, destinations, points of interest the system serves, and where discount tickets may be purchased. Brochures are also available in Cantonese, Spanish, and Tagalog. The *BART & Buses* brochure has proved to be a popular all-in-one guide to the Bay Area via public transit.

Additionally, BART recently developed a new access guide brochure which is available in accessible formats including braille, large print, and on computer disk. This brochure describes how to use the system and provides information on fares, discount tickets, and other customer service needs.

BART is also making progress on *Credit/Debit Ticket Vendors* (CDV) project which will allow customers to use credit cards for purchasing BART tickets. This is another improvement to make BART easier to use.

Figure 2 - 3

MORNING PEAK PERIOD
LOAD FACTORS FOR ALL TRAINS *
APRIL - JUNE 1995

TRANSBAY FROM WEST OAKLAND

PERIOD/ROUTE TIME INTERVAL	TRAINS	CARS	SEATS	PASS'GRS	LOAD FACTOR
PEAK ONE HOUR:					
C/DC (0733-0832)	8.3	82.6	5,780	7,485	1.29
F/DC (0726-0825)	5.0	50.0	3,500	4,852	1.39
R/DC (0729-0828)	4.9	47.3	3,310	3,736	1.13
TOTAL T'BAY	18.2	179.9	12,590	16,073	1.28
BALANCE OF PEAK PERIOD:					
C/DC (0616-0732) (0833-0915)	11.9	118.6	8,300	7,721	0.93
F/DC (0620-0725) (0826-0919)	8.0	80.0	5,600	5,370	0.96
R/DC (0638-0728) (0829-0937)	7.1	68.1	4,770	3,605	0.76
TOTAL T'BAY	27.0	266.7	18,670	16,696	0.89
TOTAL THREE-HOUR PEAK PERIOD:					
C/DC (0616-0915)	20.2	201.1	14,080	15,206	1.08
F/DC (0620-0919)	13.0	130.0	9,100	10,222	1.12
R/DC (0638-0937)	12.0	115.4	8,080	7,341	0.91
TOTAL T'BAY	45.2	446.6	31,260	32,769	1.05

TOWARDS DOWNTOWN SAN FRANCISCO FROM 16TH ST

PERIOD/ROUTE TIME INTERVAL	TRAINS	CARS	SEATS	PASS'GRS	LOAD FACTOR
PEAK ONE HOUR:					
ALL ROUTES	13.0	129.7	9,080	8,069	0.89
BALANCE OF PEAK PERIOD:					
ALL ROUTES	23.9	237.3	16,610	9,356	0.56
TOTAL THREE-HOUR PEAK PERIOD:					
ALL ROUTES	36.9	367.0	25,690	17,425	0.68

SOUTH AND WESTBOUND FROM ASHBY/ROCKRIDGE

PERIOD/ROUTE TIME INTERVAL	TRAINS	CARS	SEATS	PASS'GRS	LOAD FACTOR
PEAK ONE HOUR:					
C/DC (0715-0814)	8.1	81.1	5,680	7,627	1.34
R/DC (0716-0815)	4.7	45.7	3,200	3,652	1.14
F/R (0721-0820)	4.0	23.7	1,660	728	0.44
BALANCE OF PEAK PERIOD:					
C/DC (0604-0714) (0815-0903)	12.0	119.9	8,390	7,979	0.95
R/DC (0626-0715) (0816-0925)	7.3	69.1	4,840	3,564	0.74
F/R (0629-0720) (0821-0928)	8.0	51.6	3,610	969	0.27
TOTAL THREE-HOUR PEAK PERIOD:					
C/DC (0604-0903)	20.1	201.0	14,070	15,606	1.11
R/DC (0626-0925)	12.0	114.9	8,040	7,216	0.90
F/R (0629-0928)	12.0	75.3	5,270	1,697	0.32

NORTHBOUND FROM FRUITVALE

PERIOD/ROUTE TIME INTERVAL	TRAINS	CARS	SEATS	PASS'GRS	LOAD FACTOR
PEAK ONE HOUR:					
F/DC (0717-0816)	5.0	50.0	3,500	4,542	1.30
F/R (0723-0822)	4.0	35.7	2,500	1,871	0.75
BALANCE OF PEAK PERIOD:					
F/DC (0611-0716) (0817-0910)	8.0	80.0	5,600	4,993	0.89
F/R (0630-0722) (0823-0929)	8.0	48.3	3,380	2,064	0.61
TOTAL THREE-HOUR PEAK PERIOD:					
F/DC (0611-0910)	13.0	130.0	9,100	9,535	1.05
F/R (0630-0929)	12.0	84.0	5,880	3,935	0.67

NOTES:

* Based on representative weekday data (7 days) for ridership and train operations (for all peak period trains at their maximum load points).

Figure 2 - 4

AFTERNOON PEAK PERIOD
LOAD FACTORS FOR ALL TRAINS *
APRIL - JUNE 1995

TRANSBAY FROM EMBARCADERO

PERIOD/ROUTE TIME INTERVAL	TRAINS	CARS	SEATS	PASS'GRS	LOAD FACTOR
PEAK ONE HOUR:					
C/DC (1650-1749)	8.6	85.4	5,980	7,348	1.23
F/DC (1647-1746)	5.1	51.3	3,590	4,464	1.24
R/DC (1706-1805)	4.7	46.4	3,250	3,952	1.22
TOTAL T'BAY	18.4	183.1	12,820	15,764	1.23
BALANCE OF PEAK PERIOD:					
C/DC (1554-1649) (1750-1853)	8.4	84.1	5,890	7,257	1.23
F/DC (1543-1646) (1747-1842)	7.7	77.0	5,390	5,330	0.99
R/DC (1547-1705) (1806-1846)	7.1	70.9	4,960	4,260	0.86
TOTAL T'BAY	23.2	232.0	16,240	16,847	1.04
TOTAL THREE-HOUR PEAK PERIOD:					
C/DC (1554-1853)	17.0	169.6	11,870	14,605	1.23
F/DC (1543-1842)	12.8	128.3	8,980	9,794	1.09
R/DC (1547-1846)	11.8	117.3	8,210	8,212	1.00
TOTAL T'BAY	41.6	415.1	29,060	32,611	1.12

TOWARDS DALY CITY FROM CIVIC CENTER

PERIOD/ROUTE TIME INTERVAL	TRAINS	CARS	SEATS	PASS'GRS	LOAD FACTOR
PEAK ONE HOUR:					
ALL ROUTES	12.6	124.9	8,740	7,678	0.88
BALANCE OF PEAK PERIOD:					
ALL ROUTES	23.9	225.0	15,750	8,635	0.55
TOTAL THREE-HOUR PEAK PERIOD:					
ALL ROUTES	36.5	349.9	24,490	16,313	0.67

NORTH AND EASTBOUND FROM MACARTHUR

PERIOD/ROUTE TIME INTERVAL	TRAINS	CARS	SEATS	PASS'GRS	LOAD FACTOR
PEAK ONE HOUR:					
C/DC (1655-1754)	8.0	79.7	5,580	7,197	1.29
R/DC (1724-1823)	4.7	46.4	3,250	3,865	1.19
F/R (1709-1808)	4.1	25.1	1,760	837	0.48
BALANCE OF PEAK PERIOD:					
C/DC (1550-1654) (1755-1849)	9.0	89.9	6,290	7,576	1.20
R/DC (1555-1723) (1824-1854)	7.4	73.9	5,170	4,242	0.82
F/R (1552-1708) (1809-1851)	8.1	49.4	3,460	1,166	0.34
TOTAL THREE-HOUR PEAK PERIOD:					
C/DC (1550-1849)	17.0	169.6	11,870	14,773	1.24
R/DC (1555-1854)	12.1	120.3	8,420	8,107	0.96
F/R (1552-1851)	12.2	74.6	5,220	2,003	0.38

SOUTHBOUND FROM LAKE MERRITT

PERIOD/ROUTE TIME INTERVAL	TRAINS	CARS	SEATS	PASS'GRS	LOAD FACTOR
PEAK ONE HOUR:					
F/DC (1710-1809)	4.9	48.4	3,390	4,095	1.21
F/R (1650-1749)	4.4	29.3	2,050	1,857	0.91
BALANCE OF PEAK PERIOD:					
F/DC (1554-1709) (1810-1853)	8.0	79.9	5,590	5,090	0.91
F/R (1532-1649) (1750-1831)	7.6	45.0	3,150	2,126	0.67
TOTAL THREE-HOUR PEAK PERIOD:					
F/DC (1554-1853)	12.9	128.3	8,980	9,185	1.02
F/R (1532-1831)	12.0	74.3	5,200	3,983	0.77

NOTES:

* Based on representative weekday data (7 days) for ridership and train operations (for all peak period trains at their maximum load points).

INTER-OPERATOR COORDINATION

The importance of system integration has led BART to implement projects which make using transit more convenient and easier (Figure 1-6). Improvements such as coordinating schedules, fares, transfer agreements, and providing better information for inter-operator connections serve to promote use of all transit systems. Transit centers are being established at Concord, Walnut Creek, El Cerrito del Norte, Daly City, San Leandro, Bay Fair, and Hayward stations. These transit centers improve bus circulation, signs, and passenger information, and also add bus zones and more comfortable passenger waiting areas. Transit centers at El Cerrito del Norte and Bay Fair stations are substantially complete. Construction for the Daly City Station transit center is estimated to begin in the first half of FY 96.

In addition to transfer agreements with operators serving BART stations, BART has also implemented TransLink, a *universal* ticket instrument featuring magnetically encoded fare information similar to BART tickets. This was placed in limited service in May 1993 and is currently valid on BART, BART express buses, and buses operated by CCCTA. Expansion of this ticket to additional agencies will be dependent upon its success in this limited trial and interest on the part of other Bay Area operators. Figure 2-5 summarizes inter-operator ridership for TransLink, the BART/MUNI FastPass, and BARTPlus during FY 95.

BART also participates in emergency transportation service planning. This includes interim and future efforts to improve and or replace freeways damaged and/or destroyed by the October 1989 Loma Prieta Earthquake. Caltrans and individual counties are the lead agencies, through state-mandated regulations which govern county congestion management planning activities.

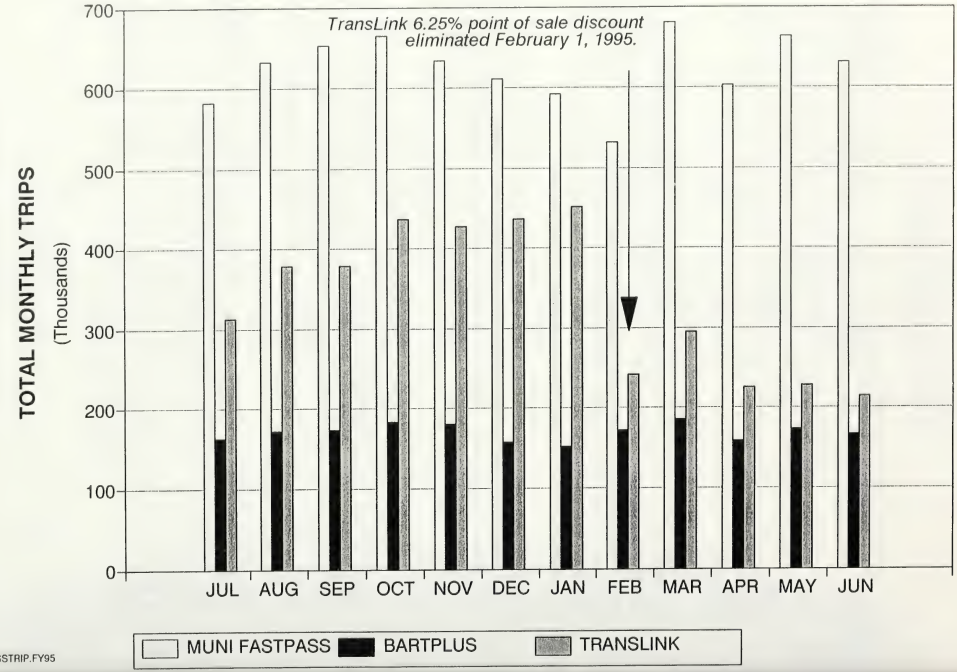
AMERICANS WITH DISABILITIES ACT (ADA)

The ADA Act requires all transit operators to provide comparable *paratransit* service to individuals who are unable to use public transit services due to a disability. In order to come into full compliance with ADA requirements by the mandated January 1997 deadline, BART is working with Bay Area local transit agencies, many of which have already established paratransit services operating within BART's service area.

In April 1994, BART executed a agreement with AC Transit which effectively formed the *East Bay Paratransit Consortium.* This entity is responsible for planning and administering ADA paratransit services within the service area common to both BART and AC Transit. The Consortium has hired Comsis Corporation to oversee the paratransit program, which is forecast to accommodate more than 1.1 million riders in FY 98 with a budget of approximately $20 million. In FY 95, BART also signed an agreement with CCCTA for local paratransit services in central Contra Costa County.

Figure 2 - 5

FY95 INTER-OPERATOR TICKET RIDERSHIP



PASSTRIP.FY95

In FY 95, BART executed a cost-sharing agreement with the San Francisco Municipal Railway. This action extended paratransit to BART riders who may require this service within the City and County of San Francisco.

For the remainder of BART's service area (i.e., localities served by BART but outside the service areas of MUNI, AC Transit, and CCCTA), the District will carry forward its efforts to develop additional cost-sharing agreements with other local transit agencies. This includes LAVTA, WCCTA, and Tri-Delta Transit, all of which provide local transit services in the East Bay.

Original and updated design standards and features of stations and vehicles are evidence of BART's concern for providing a safe and accessible travel environment. The District's adopted *Key Station Plan* identifies strategies for implementing other accessibility improvements as well as those mandated by ADA. An important part of this process is the *BART Accessibility Task Force*, comprised of representatives from the elderly and disabled communities. The Task Force meets regularly with BART staff for the purpose of identifying projects which may further enhance system accessibility. The Task Force has had considerable input to BART's *Coordinated Paratransit Plan*. This document, which is updated annually, was submitted to FTA in January 1995. Continued implementation of projects specified by this plan will take place over the next two years to bring BART in full compliance with ADA requirements.

TITLE VI

FTA requires that federally assisted benefits and services be made available without regard to race, color, or national origin. FTA also requires that a *Triennial Title VI Compliance Report* be completed to demonstrate that services are equitably distributed. The last triennial report was completed in FY 93. BART's Title VI update is scheduled for completion in FY 96.

STATION ACCESS

Station accessibility improvements have consistently proven to be effective for making BART more user-friendly, thereby supporting increased ridership. Activities in FY 95 have addressed station access on a number of fronts as discussed below:

Parking

As of June 1995, 24 of BART's 34 stations had parking facilities, totaling 33,368 spaces. BART added 2,385 new parking spaces in FY 95, including the opening of three new parking structures at Hayward, Concord, and Walnut Creek stations; and a park/ride lot in Brentwood (Figure 1-3). BART received a grant from FTA for the construction of a 196-space park/ride facility near Railroad Avenue in Pittsburg. An amendment to the agreement is currently being sought to reflect a new site for the project at Bliss Avenue.

Congestion Management

BART's congestion management planning focused on developing alternatives to single-occupancy vehicle access to and egress from BART stations. The District was active in assisting large Bay Area employers in developing commute alternatives for their employees, and also received funding to replace and provide additional station bicycle lockers. Coordination efforts with local bus operators have resulted in better connectivity between BART and other transit modes.

In FY 95, BART received funding from Caltrans to provide additional train service as a mitigation measure for relief of freeway traffic congestion due to construction in the vicinity of the I-680/24 interchange. This service, which began in July 1995, consists of two trains during the morning commute between Concord and South Hayward stations, with the reverse of this service provided during the afternoon peak. Caltrans is also funding the leasing and operation of property for the addition of 590 *temporary* parking spaces adjacent to Pleasant Hill Station in conjunction with the new peak period train service. These improvements are scheduled to be completed in October 1995.

As part of construction mitigation in the I-80 corridor, Caltrans also provides funding for *JX* express bus service. This service operates weekdays during peak commute hours between El Cerrito del Norte Station and Pinole and Hercules.

Access Planning Activities

BART developed an evaluation process in FY 95 as part of developing the *Comprehensive Access Strategy Plan* for all stations. This evaluation process establishes a uniform method to identify existing and future passenger access needs and the most appropriate improvements to address convenient passenger access. The *Access Strategy Plan* will assist in identifying capital program priorities.

GOAL 3

Empower Employees to Function as Owners of the BART Organization

The quality of service as experienced by BART's customers is a direct reflection of the people who deliver it. For this reason, programs to promote professional development are an important part of how BART seeks to improve its service. Specific standards have been developed for training managers, supervisors, and front-line employees. Due recognition is given with regard to employee performance, suggestions, service history, and attendance records.

GOAL 4

Provide an Environment Free of Impediments to Opportunities for Employees and Disadvantaged Business Enterprises, and One Which Encourages Cooperation and Develops an Organizational Team of Highly Motivated Staff

Related to empowering employees are programs to promote career development within the organization. Consistent with current FTA regulations, from which BART's objectives were developed, efforts focus on promoting disadvantaged business enterprise (DBE) participation and equal employment opportunities.

CAREER DEVELOPMENT

BART conducts Career Development workshops on a quarterly basis. The *Shadow* and *Modified Educational Assistance* programs, begun in FY 95, supplement these workshops. Other programs, including *Employee Assistance* and *Return-to-Work*, provide employees with resources to address on-the-job and personal problems which may impact job performance. The formation of a *Joint Labor-Management Committee* and the implementation of the *IT* program in FY 95 are important efforts to enhance working relations, better utilize employee skills, and empower employees in decision making processes.

DBE PARTICIPATION

BART has a current objective to achieve 21% disadvantaged business enterprise participation for all District contracts determined to have disadvantaged business enterprise opportunities. During FY 95, actual DBE participation on a contract-dollar basis was 27.5% for all District contracts, and 33.2% for federally assisted contracts. Outreach activities, including trade fairs and the expansion of the *Regional Transit Association*'s DBE directory are continuing, and technical assistance is provided on an ongoing basis to interested participants in the DBE process.

EQUAL EMPLOYMENT OPPORTUNITIES

Activities are guided by FTA and BART policies with regard to job representation by women and minorities. In FY 95, resources were allocated to conduct recruitment and focused on identifying qualified applicants for achieving specified targets. Procedures were also strengthened with respect to goal monitoring and staff performance evaluation. In FY 95, the District had 273 job opportunities for current employees through promotions and for outside applicants. Of this total, 118 positions (43.2%) were filled by targeted placements. This is 174.4% above FY 95's objective of 43 targeted placements.

GOAL 5

Develop BART Services and Facilities to Expand District Markets and Capture New Revenue Sources

Central to promoting use of the BART system and its expansion plans is the Bay Area market for its service. Key questions in this regard are:

- How many people currently use the system?
- How do current riders rate BART service?
- Why are more people not using the system?
- What opportunities are there for increasing ridership?

THE MARKET FOR BART SERVICE

Historically, the market for BART service has grown in step with changes in population and employment, and the cost and ease of BART travel relative to the automobile. The highly congested and constrained Transbay Corridor is, perhaps, the best example of this relationship where BART's market share of Transbay travel exceeds 50% during peak commute hours.

The period from the mid-1970s through the mid-1980s shows ridership gains on the order of 7.1% annually (Figures 2-6). Maturation of BART's market, coupled with continued decentralization of the Bay Area's population and employment, have resulted in considerably slower growth since then. There is also some evidence which supports the notion that the substantial one-time ridership gain as the result of the October 1989 *Loma Prieta Earthquake* was at the expense of what would have normally occurred at a slower rate through the early 1990s.

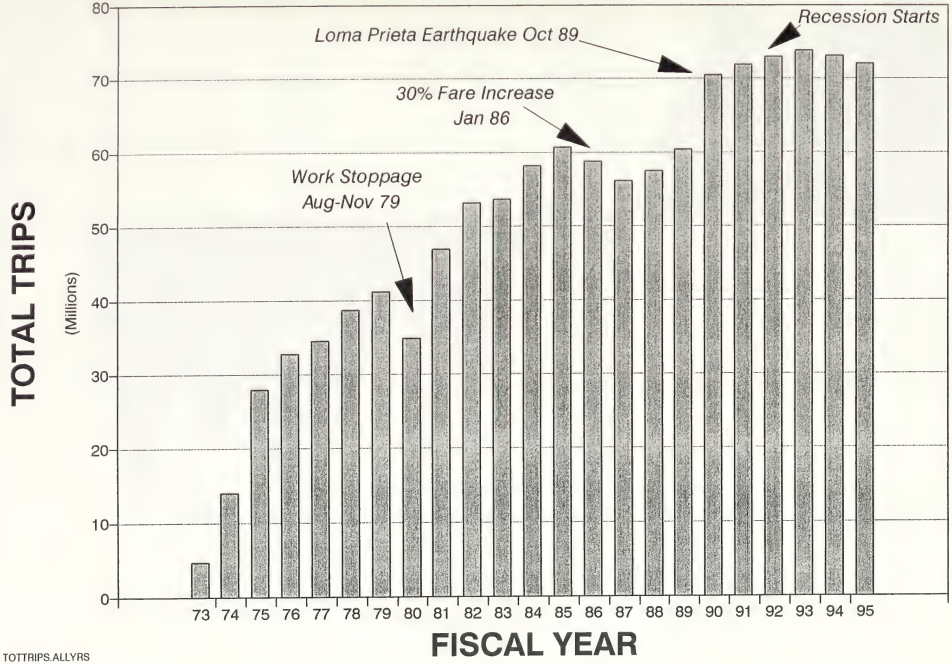
Since FY 90 and prior to the April 1, 1995 fare increase, BART ridership has been virtually flat. During this same period of time and beginning in the third quarter of FY 91, the full force of the national recession hit the California economy (Figure 2-7). The loss of jobs due to the recession and closure of Bay Area military bases undermined growth in BART's commute ridership. Additionally, the recession had a direct impact on use of dwindling discretionary income. This is reflected in a lower rate of offpeak BART use as well. On a 12-month basis, BART's annual ridership peaked in March 1994 at 73.57 million trips, and, as discussed below, has been between 1% to 1.5% below this level since that time.

Ridership

Total ridership in FY 95 was 72.05 million trips, 1.7% below a revised forecast of 73.26 million trips (Figure 2-2, performance objective 1). FY 95 actual and revised budget reflect the impact of the 15% fare increase effective as of April 1, 1995. On a weekday basis, the annual figures

Figure 2 - 6

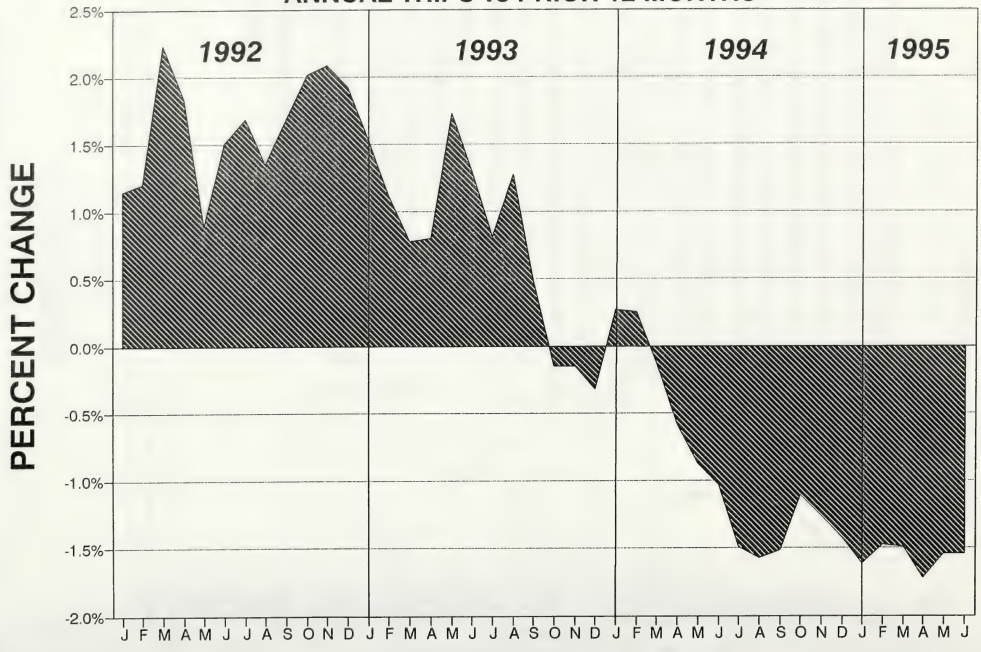
ANNUAL RIDERSHIP - FY 73 THROUGH FY 95



TOTTRIPS.ALLYRS

Figure 2 - 7

RIDERSHIP CHANGE DURING RECESSION



for FY 95 translate to an actual average of 248,169 trips versus a revised budget of 252,500. Events which had a significant impact on ridership during this period include the baseball strike which began in August 1994, lingering recessionary trends and continued military base closures, and severe winter storms which were accompanied by double the normal amounts of rainfall.

It is estimated that the 15% fare increase, which was implemented on April 1, 1995, would result in a 3.4% drop in ridership. Analysis of patronage data suggest that the actual reduction in ridership due to higher fares was on the order of 1%. This is based on the assumption that the ridership impact due to higher fares is approximately equal to:

- The forecast year-to-year change in fourth quarter ridership without any change in fares, less
- The actual year-to-year change in fourth quarter ridership with higher fares.

The forecast year-to-year change in fourth quarter ridership without a fare change was estimated per the change in total BART travel for the 12-month period ending in March 1995, before fares were increased. Ridership for this period was 72.47 million trips, which is 1.5% less than the 73.57 million trips recorded for the same period one year earlier. It is assumed that the April-June 1995 quarter would also exhibit a negative 1.5% variance.

Looking at what actually occurred in the fourth quarter of FY 95, after the 15.0% fare increase went into effect, reveals that ridership was down 2.3% from the same quarter in FY 94. It is, therefore, postulated that the net effect of the 15.0% fare increase resulted in about a 0.8% decline in system use, which is equal to a 1.5% decline without a fare change less 2.3% decline after fares were raised.

MARKETING PROGRAM

Marketing efforts focus on a variety of methods designed to increase core system use and to attract new riders as extensions are opened. Campaigns include use of in-station newsletters, flyers, billboards, and print/broadcast media. Direct mailing is also used and targeted at new Bay Area residents.

BART periodically conducts its *Passenger Profile Survey* to gain insight into customer satisfaction and use of the system. The last survey, which was conducted in May 1992, has helped BART to focus its efforts to improve service in ways that are most visible and important to its customers. Highlights of the last survey include the following:

- Customers are generally satisfied with BART's cleanliness, personnel, and security.

- A significant portion of customers were dissatisfied with the frequency and quality of announcements on trains and in stations.

- Passengers' perceptions of BART's on-time performance improved markedly since the 1987 survey, with over 75% of the respondents stating that BART gets them to their destination on time more than 90% of the time.

- Half of all BART customers had an automobile available for their trip but chose to ride BART primarily to avoid traffic congestion and the difficulty of parking at their destination.

- Of all trips to BART, 54% are by automobile, 24% by walking, 21% by transit, and 1% by other modes (i.e., bicycle, motorcycle, taxi, etc.).

Passenger Profile Survey data have also been used in conjunction with the *Geographic Information System* (GIS) which is maintained by BART's Division of Customer and Performance Research. This analytical tool has been instrumental in the development BART's *Comprehensive Access Strategy Plan.*

BART EXPRESS BUS SERVICE

Efforts to expand BART's markets and tap new revenue sources extend to its express bus service. Since privatization of this part of BART operations in 1991 and route streamlining/schedule coordination with rail, the farebox ratio for express bus service has continued to rise. The express bus farebox ratio stood at 8.5% in FY 88 compared to FY 95's level of 16.7%.

PHASE I RAIL EXTENSIONS

Rail extensions represent the largest effort for penetrating new markets. During FY 95, progress continued towards completion of BART's Phase I extensions in Alameda, Contra Costa, and San Mateo counties.

Pittsburg/Bay Point Extension

The 7.0 mile, two-station extension to Pittsburg/Bay Point is in its fifth year of construction. Opening of 2.2 miles of the new line to North Concord/Martinez Station, the first segment of this extension, is nearly complete and is slated to open in Fall 1995. The remaining 4.8-mile segment to Pittsburg/Bay Point Station is scheduled to be open in Fall 1996, providing a valuable transit link to this high growth area of eastern Contra Costa County.

East Dublin/Pleasanton Extension

The 13.5 mile, two-station extension to East Dublin/Pleasanton is also in its fifth year of construction, and is scheduled to open in Summer 1996. This is the longest of BART's phase I extensions, and will add a new route to the system. Implementation of West Dublin Station, originally part of this extension but later cut due to a funding shortfall, is pending per availability of additional funding. West Dublin Station is identified in BART's CIP in the District's *Track Two* capital program.

Colma Extension

The 1.6 mile extension south of Daly City to Colma Station is in its fourth year of construction. This extension is nearly complete and is scheduled to open in Winter 1995.

San Francisco Airport Extension

The draft environmental documentation for this extension was completed in FY 95. In April 1995 the boards of directors of BART and San Mateo County Transit District (SamTrans) adopted *Locally Preferred Alternative VI.* The 7.9 mile extension south of the Colma Station calls for the construction of four stations: South San Francisco, San Bruno, one beneath the planned international terminal building at the San Francisco Airport, and an end-of-line station in Millbrae.

Recent events in Summer 1995 have resulted in BART investigating an aerial design option to the portion of Alternative VI south of Angus Avenue in San Bruno (the Alternative VI tunnel). A *Focused Recirculated Draft Environmental Impact Report/Supplement #2 Draft Environmental Impact Statement* is being prepared and will evaluate the potential impacts of design options. Completion of the final environmental documentation and adoption of a project is expected in early 1996.

Warm Springs Extension

No further progress on this remaining phase I extension has been made since 1993 when Final Design work ceased due to pending litigation and a funding shortfall. This extension is identified in BART's CIP under its *Track One* capital program.

OTHER RAIL EXTENSIONS

In addition to the Phase I Extensions Program are other BART-sponsored rail projects. These are as follows:

Oakland Airport Connector

BART, in partnership with the Port of Oakland and AAI Corporation, were selected in September 1992 as finalists in the FTA competition for a *Suspended Light Rail System Technology (SLRT) Pilot Project* demonstration grant. The *Feasibility Study* was submitted to FTA in September 1993. The *Oakland Airport Connector Project Update Study* was completed in December 1993. This study identifies conceptual engineering and environmental work for this extension, as well as route/mode options and environmental issues. This rail extension is identified in BART's CIP under the District's *Track Two* capital program, and funding is being sought for implementation.

West Contra Costa Extension

In October 1992, the *West Contra Costa Alignment Alternatives Study* identified the four most promising BART alignments within the I-80 corridor between El Cerrito del Norte and Richmond stations and Crockett. In FY 95, BART continued to work with local communities and agencies on this extension. Future funding in support of planning activities for this Phase II extension has yet to be identified, as shown in BART's CIP under *Track Two*.

Pittsburg/Antioch Extension

BART is participating in a joint effort with CCCTA and Caltrans to refine plans and provide environmental clearances to accommodate a future extension of BART rail service east of Pittsburg/Bay Point Station to Railroad Avenue in central Pittsburg. Included in this effort and in addition to the BART alignment, is a widening of SR-4 with provision for high-occupancy vehicle (HOV) lanes. The joint study is analyzing alternative locations for a BART station in addition to the adopted Pittsburg Avenue Central site.

Commuter Rail

During FY 95, BART conducted a feasibility study for implementing commuter rail service in the region. The results included the development of a comprehensive service plan for a proposed 200-mile commuter rail system serving five counties in the Bay Area and the Central Valley. Phasing options and service alternatives were developed in response to institutional limitations and implementation issues. It is anticipated that once funding is identified, five-county commuter rail service could be implemented. This will require regional consensus among effected communities and private railroads and securing necessary funding. Commuter rail service is identified in BART's CIP under its *Track Two* capital program.

OTHER MARKET & REVENUE EXPANSION EFFORTS

In addition to rail extensions, BART has continued to seek ways to expand its market and revenue base, as discussed below. Improvements discussed under Goal 1 are prime examples of this, where providing sufficient parking and coordinating services with other transit providers, for example, are critical prerequisites to expanding and tapping new markets.

Joint Development and Concessions

Continuing in FY 95, were joint development efforts between BART and local redevelopment agencies for high-density, multi-land use developments of property adjacent to BART stations. BART executed an option to lease property at the new Castro Valley BART Station for mixed-use development. The District also leased space in stations to private vendors for concessions. During FY 95, sale of excess District property and station concessions generated approximately $181,000 and $1,134,000, respectively.

Advanced Technology

BART continues to investigate ways to enhance its operations and revenue base through technological innovation. The *Advanced Automatic Train Control* (AATC) project is part of this effort, and would increase system capacity from the current system capability of 26 trains per hour in one direction to 30 or more. In December 1994, BART completed the *System Throughput Enhancement Plan* (STEP), which allowed BART to go from a maximum schedule of 20 trains per hour to 26.

Progress in other areas of technological advancement include the District's joint effort with MFS Network Technologies for developing and installing a fiber-optic line conduit system within BART's right-of-way including the Transbay Tube. MFS Network Technologies will generate revenue by marketing and operating the conduit system for occupancy and use by private telecommunication companies. BART is to receive 91% of gross revenues from the joint venture. A second project BART has with MFS Network Technologies is the development of a new internal telecommunications system for the District. This *BART Telesystem* is to be paid for by revenues generated from the *Conduit System* project.

Additional efforts in the area of advanced technology focus on improving system access while addressing ways to meet state and federal clean air standards. Accordingly, progress continues to be made on developing demonstration projects for *electric station cars* and *electric vehicle charging kiosks*. These two projects are identified in BART's CIP under research and development.

GOAL 6

Secure and Manage Funds Necessary to Maintain and Expand the System and Operate BART According to Fiscally Sound Business Practices

Throughout its history, BART has taken prudent actions to assure that fiscal constraints do not compromise the organization's ability to deliver its full service schedule. The most recent recession has placed even greater pressure than in the past to find innovative ways to support the level of operations and maintenance from BART's two principle sources of revenue: passenger fares and sales tax revenue. This will become an even greater challenge in the future, when extensions come on line without any expansion in BART's sales tax base.

FY 95 OPERATING BUDGET PERFORMANCE

BART's $221.13 million operating budget for FY 95 is summarized in Figure 2-8. This income and expense statement reflects policy choices among management objectives. The approach underscores the importance of making tradeoffs and establishing priorities for resource use by emphasizing results and strengthening accountability. The FY 95 budget reflects BART's major themes consisting of customer service, extensions support, system rehabilitation, operating efficiencies, and employee development. A key budget consideration in FY 95 relative to prior fiscal years was the implementation of a fare increase, the first since January 1986.

Adopted Fare Package

On January 26, 1995, the District Board of Directors adopted a fare increase package consisting of three consecutive fiscal year increases. This series of increases is forecast to generate additional revenue of $100 million, funds needed to finance system rehabilitation, extensions operations, and ADA service.

The first of these increases became effective April 1, 1995 and raised adult fares by approximately 15% from a base of 80¢ to 90¢. Additionally, discounts for seniors, children ages 5-12, and persons with disabilities were reduced from 90% to 75% of the full adult fare. BART express bus fares were also increased by 15%. The resulting fare components for FY 95 are shown in Figure 1-6.

The second of the adopted fare package increases is to take place on April 1, 1996, at which time fares will be raised by an average of 13.0%. The third increase will occur one year later, on April 1, 1997, at 11.4%. As part of the January 1995 adopted fare package, the BART Board also made a commitment not to raise fares in FY 98.

Figure 2 - 8

FY 95 DISTRICT OPERATING BUDGET *

All Figures in Thousands

	BUDGET	ACTUAL	VARIANCE
REVENUES			
Gross Passenger Revenue	$124,633	$121,192	($3,441)
Discounts and Deductions	(19,613)	(17,315)	2,298
Net Passenger Revenue	105,020	103,877	(1,143)
Other Operating Revenue	11,209	12,663	1,455
Total Net Revenue	**116,229**	**116,540**	**312**
LABOR EXPENSES			
Hourly Regular Time	106,732	105,539	1,193
Hourly Overtime	8,531	8,546	(15)
Subtotal Hourly	115,263	114,085	1,178
Salaried Regular Time	68,060	64,983	3,077
Salaried Overtime	1,456	1,722	(265)
Subtotal Salaried	69,516	66,705	2,811
Temporary Help (agency)	510	409	101
Adjustment to Labor *	(3,800)	---	(3,800)
Gross Labor	181,488	181,199	289
Capitalized Labor	(25,454)	(25,135)	(320)
Other Labor Credits	(608)	(3,094)	2,486
Total Net Labor	**155,426**	**152,971**	**2,455**
COST CENTER EXPENSES			
Material Usage	1,836	1,734	102
Professional & Technical	8,062	8,414	(352)
Travel	222	228	(6)
Miscellaneous	10,353	10,187	166
Subtotal Cost Centers	20,473	20,563	(90)
DIRECT PROGRAM EXPENSE			
Material Usage	10,765	11,299	(533)
Rental & Maintenance Contracts	2,882	3,545	(664)
Professional and Technical	317	303	14
Express Bus Service	7,090	7,129	(38)
Shuttle Bus & ADA Service	1,506	920	586
Bus Transfer Agreements	1,562	1,574	(13)
Electric Power	20,121	18,863	1,258
Other Utilities	990	1,167	(177)
Subtotal Programs	45,233	44,800	433
Total Non-Labor	**65,706**	**65,363**	**342**
TOTAL OPERATING EXPENSE	**221,132**	**218,334**	**2,798**
OPERATING SURPLUS/(DEFICIT)	**(104,903)**	**(101,794)**	**3,109**
FINANCIAL ASSISTANCE			
Sales Tax Revenue	114,474	115,186	712
Property Tax Revenue	12,763	12,002	(761)
Other Financial Assistance	1,910	550	(1,360)
Debt Service Allocations	(19,684)	(21,561)	(1,877)
Capital Allocations	(4,560)	(4,384)	176
Total Assistance	**104,903**	**101,794**	**(3,109)**
NET OPERATING RESULT	**0**	**(0)**	**(0)**

* Adopted Revised Budget

Passenger and Other Operating Revenues

Net passenger fare revenue was 1.1% unfavorable to budget in FY 95, and reflects under-budget ridership. Actual fare revenue amounted to $103.88 million versus a budget of $105.02 million. Revenue from sources other than passenger fares amounted to $12.66 million, 13.0% above a budget of $11.21 million. Total net revenue from these sources amounted to $116.54 million actual versus $116.23 million budgeted, or 0.3% favorable to budget.

Labor and Non-Labor Expense

Net labor expense during FY 95 came in 1.6% under budget. Actual labor expense amounted to $152.97 million versus $155.43 million budget. BART's FY 95 staffing budget consisted of 2,477 full-time equivalent operating employees (FTEs) and 340 FTEs for capitalized and reimbursable labor. As of the end of June 1995, BART had 157 FTE vacancies out of a total of 2,817 authorized FTE positions.

Non-labor expense for FY 95 was 0.5% favorable, at $65.36 million actual compared to a budget of $65.71 million. Total operating expense of $218.33 million came in 1.3% under a budgeted level of $221.13 million.

Privatization

Efforts to achieve economies of scale have led BART to privatize some functional aspects of its operations, where costs of outside services are less than could be achieved by the District (Figure 2-9). On a contract dollar basis, 4.6% of BART's operating expense in FY 95 went for services provided by outside vendors. BART's $7.13 million expense for Laidlaw Transit operated express bus service accounted for 71% of all District privatized expense in FY 95, at $10.11 million. Other functional areas which have been privatized include traction motor overhaul, transit vehicle wheel reconditioning, and vehicle seat cleaning.

Financial Assistance

Recent favorable trends in the Bay Area economy indicate a breaking out of recessionary conditions. Increased consumer spending is reflected in sales tax revenue 4.9% above FY 94's. This is the largest year-to-year gain since FY 90, before the full force of the national recession hit California. BART sales tax revenue in FY 95 came in 0.6% favorable to budget, at $115.19 million actual versus a budget of $114.48 million. Property tax receipts were 6.0% unfavorable to budget. Actual receipts came in at $12.00 million versus a budget of $12.76 million. BART STA funding was $0.55 million, equal to budget. BART did not receive any TDA funding in FY 95, but had budgeted $1.36 million from this source. Total financial assistance from the above sources amounted to $127.74 million, or 1.1% unfavorable to a budget amount of $129.15 million.

Figure 2-9

BART PRIVATIZATION
SERVICES PROVIDED UNDER CONTRACT

(All Figures in Thousands of Dollars)

	FY 95 ACTUAL	FY 96 BUDGET
EXPRESS BUS SERVICE	7,129	6,934
TRACTION MOTOR OVERHAUL	1,095	1,558
BART SHUTTLE BUS SERVICE	180	95
SEAT CLEANING	251	263
WHEEL RECONDITIONING	390	378
WEED ABATEMENT	172	185
GRAFFITI REMOVAL	56	164
PARKING LOT SWEEPING	118	155
MOTOR ALTERNATOR OVERHAUL	50	60
ROLLER BEARINGS	254	181
BRAKE LININGS	143	118
WINDOW WASHING	0	45
PIGEON CONTROL	137	225
WHEEL REMOVAL	24	29
PEST CONTROL	18	30
FIRE EXTINGUISHER SERVICE	30	30
PC MAINTENANCE & REPAIR	30	30
FLAME SPRAY OF BEARINGS	30	30
TOTAL	10,105	10,510

Allocations From Operating Sources

Allocations from operating sources are used for servicing long-term debt and to supplement capital funds. In FY 95, debt service for the 1990 and 1991 C-car bonds was on target at $19.68 million. The District also incurred debt service expense of $1.88 million for the 1995 sales tax revenue bonds which were issued after adoption of the budget. BART allocated $4.38 million to capital projects compared to a budget of $4.56 million. Total allocations from operating sources were 7.0% higher than budget. Actual allocations were $25.95 million versus a budget of $24.24 million.

Net Operating Result

Revenue slightly above budget (+ $0.31 million) and below budget expense (- $2.80 million) offset unfavorable financial assistance (- $1.41 million) and allocations (- $1.70), enabling BART to achieve a balanced budget for FY 95.

Farebox Ratio

All of BART's farebox ratios came in on budget in FY 95 (Figure 2-2, performance objective 9). The farebox ratio for rail operations was 49.2%. That for BART express bus service was 16.7%. Systemwide, 47.6% of operating expense was recovered through passenger fares.

Operating Ratio

BART's operating ratio, which is equal to all sources of revenue (excluding financial assistance) divided by total operating expense, was 53.4% in FY 95. This compares favorably to a budget target of 52.6% (Figure 2-2, performance objective 10).

Rail Cost Per Passenger Mile

The rail cost per passenger mile in FY 95 was 23.0¢, compared to a budgeted amount of 22.7¢ (Figure 2-2, performance objective 11). Rail operating expense for FY 95 came in 1.1% below budget. This favorable financial performance was offset by 2.2% below forecast passenger miles.

CAPITAL REQUIREMENTS AND PROGRAM ADVOCACY

Increased competition for limited local, state, and federal funding has resulted in BART taking an aggressive role in advocating and securing resources for implementing needed capital improvements, including system rehabilitation of the 23-year old core system. BART's capital projects and associated financial requirements are fully documented in the District's 1995 *Capital Improvement Program* (CIP), a companion document to the SRTP.

BART's Department of Government and Community Relations oversees the District's legislative program, community-based outreach, and advocates implementation of District initiatives. The primary purpose of these functions is to secure the necessary funding to support BART operations and the District's capital program. In addition, Community Relations staff develop partnerships and pursue special projects with civic, community, business, government, police, and environmental groups in the Bay Area. These programs are designed to foster support of the BART organization, enhance ridership, and respond to customer needs.

GOAL 7

Take the Leadership Role in Integrating Various Features of Regional Transportation Systems in Policy, Finance, and Operations

BART's role in the region, by its very nature, is to join places by providing quality, car-free transportation. BART, however, cannot serve all places directly and is, therefore, only as strong as its ties to other modes of transportation. With just over 71 miles of mainline double-track currently and 22 more miles to be added by the end of 1996, BART provides a common thread linking over a dozen local and long-distance ground transportation providers. With future connections to both San Francisco and Oakland International Airports, this number quickly multiplies by adding all the airlines serving these two regional facilities. *Accessibility* is the key, regardless of mode. While parking is very important, for the region to maximize its investment in BART and in all forms of public transit, and to achieve clean air standards, it is of paramount concern that the Bay Area's transit systems function as an integrated whole to promote increased ridership and reduced automobile dependence.

The importance of system integration has led BART to implement projects which make using transit easier. As discussed under Goals 1 and 2, improvements such as coordinating schedules, fares, transfers, providing better information for inter-operator connections, and improving station access serve to promote use of all transit systems. The introduction of the TransLink ticket, and its growing use, further emphasizes the need for continuing to strive for creating a transit network which will allow unimpeded and *seamless* movement in and around the Bay Area. Additionally, as discussed under Goal 5, continued research and development for electric cars will lead to more efficient use of automobiles for local travel including access to BART and other forms of transit.

GOAL 8

Build Constituencies at All Levels of Government to Support The BART Organization and Its Programs

As a publicly funded agency, and one whose Board of Directors is locally elected, BART is well positioned to receive and respond to public concerns regarding the system's current status as well as its future.

In addition to communication via Board-related processes, BART has implemented important programs aimed at both educating and promoting dialogue between the organization and interested parties, be they individuals, special interest/professional groups, businesses, or local governments. Specific objectives are identified in the *Action Plan for Systemwide Community Relations*, developed and implemented by BART's department of Government and Community Relations. The *BART Speakers Bureau* responded to nearly 200 requests for information in FY 95. These primarily consisted of requests for presentations before special interest groups. Knowledgeable BART staff are drawn from a pool of speakers to address groups. BART also has a *School Safety Program* for disseminating information about BART to Bay Area youth. These programs are instrumental in communicating BART initiatives and promoting support for the system.

The *BART Accessibility Task Force* advises the District on issues relating to system accessibility. Dialogue between BART and local communities is also facilitated through the *Consortium Service Advisory Committee*, which advises the District on matters relating to ADA paratransit service.

BART also continued to work closely with the communities located near rail extension construction sites. BART *Community Service Centers* are located in Concord, Hayward, Dublin and Colma, where full-time staff are available to provide assistance with problems, complaints and concerns. Special telephone *Hotlines* have been established for each of the *Community Service Centers*. Each center also has available printed materials, video and slide presentations, station models and renderings, maps, and portable exhibits.

As stated under Goal 6, BART's Government and Community Relations Department also keeps abreast of legislative matters and formulates plans for advocating support for BART initiatives.

CHAPTER 3

RIDERSHIP FORECAST & PLANNED SERVICE

BART's ridership forecast is the key driver in the formulation of service plans and underlying required capital program. Accordingly, this chapter begins with a discussion of factors which influence BART ridership. Regional population and employment growth is presented first, followed by a discussion of additional factors which impact BART ridership. Within this context, the ridership forecast for the ten year period is presented, followed by a description of the rail service plans developed to accommodate this growth which includes new extensions. The last two sections of this chapter describe service plans for BART express bus and ADA paratransit.

REGIONAL GROWTH

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are consistent with ABAG's population and employment forecasts as published in its *Projections '94 Update*, and MTC's regional travel model. ABAG's projections are summarized below and in Figure 3-1.

Population

The nine-county regional population base is forecast to grow 1.1% per year from 6.50 million people in 1995 to 7.25 million by 2005. This compares to 1.0% annual growth for the three-county BART District which is forecast to increase from a base of 3.02 million people in 1995 to 3.33 million in 2005. With the soon-to-be-implemented extension of BART service south of Daly City, the Peninsula travel market will play a more prominent role in District affairs. San Mateo County's 1995 population is 0.69 million people and is forecast to grow 0.6% annually to 0.73 million by 2005.

Employment

In contrast to 1.1% regional population growth, ABAG's *Projections '94* for employment suggests that there will be considerably higher growth in jobs, at a 2.0% annual rate. Demographic shifts and *in-commuting* from areas outside the region, primarily from the Central Valley, are the key reasons for the disparity between the growth in population and jobs. Employment in the nine-county Bay Area is forecast to grow from a base of 3.04 million jobs in 1995 to 3.72 million in 2005. The three BART counties are expected to experience slightly lower growth than for the region as a whole, at 1.9% per year, from a base of 1.46 million jobs in 1995 to 1.76 million in 2005. The addition of San Mateo County increases the District's 1995 employment base by 0.33 million jobs. San Mateo County's employment outlook includes 1.5% annual growth, to 0.38 million jobs by 2005.

Figure 3-1
REGIONAL POPULATION FORECAST

COUNTY	1995	2000	2005	% / YR
San Francisco	768,300	784,400	804,600	0.5%
Alameda	1,355,900	1,413,300	1,486,100	0.9%
Contra Costa	891,200	968,700	1,040,400	1.6%
District Subtotal	**3,015,400**	**3,166,400**	**3,331,100**	**1.0%**
San Mateo	686,600	713,000	734,100	0.6%
Santa Clara	1,606,600	1,689,600	1,770,600	1.0%
Marin	244,600	253,600	261,300	0.7%
Solano	395,600	454,700	507,200	2.5%
Napa	121,000	129,200	137,600	1.3%
Sonoma	431,800	468,900	507,600	1.6%
Region Total	**6,504,600**	**6,875,400**	**7,249,500**	**1.1%**

REGIONAL EMPLOYMENT FORECAST

COUNTY	1995	2000	2005	% / YR
San Francisco	565,490	595,370	639,940	1.2%
Alameda	593,740	655,090	733,360	2.1%
Contra Costa	296,700	342,160	389,960	2.8%
District Subtotal	**1,455,930**	**1,592,620**	**1,763,260**	**1.9%**
San Mateo	330,190	367,180	384,720	1.5%
Santa Clara	819,260	899,450	992,850	1.9%
Marin	100,460	110,390	121,590	1.9%
Solano	119,130	140,480	170,650	3.7%
Napa	50,250	57,610	65,580	2.7%
Sonoma	162,730	190,260	216,370	2.9%
Region Total	**3,037,950**	**3,358,990**	**3,715,020**	**2.0%**

Source: *Projections '94*, Association of Bay Area Governments

ADDITIONAL RIDERSHIP FACTORS

Other key assumptions used to forecast BART ridership for the current SRTP ten-year period include the impact of higher fares and related demand elasticities, travel times for BART versus automobile, the schedule for starting service on extensions, and system access.

BART Fares

The baseline ridership forecast consists of annual and average weekday trips for each fiscal year in the current ten year planning period. This forecast includes the impact of the January 1995 adopted fare package which includes the following key components:

- 15.0% fare increase, effective April 1, 1995.
- Reduction in discounts from 90% to 75%, effective April 1, 1995.
- 13.0% fare increase, effective April 1, 1996.
- 11.4% fare increase, effective April 1, 1997.
- No fare increase in FY 98.

Demand Elasticity

Erosion of demand due to fare increases was determined by use of a continuous demand elasticity function. This function was developed as part of the fare increase package identified above. The following table summarizes the elasticities used:

FARE INCREASE	COEFFICIENT OF ELASTICITY	DEMAND EROSION
5%	-0.097	0.5%
10%	-0.182	1.7%
15%	-0.256	3.4%
20%	-0.321	5.7%
25%	-0.379	8.1%
30%	-0.431	10.7%

The elasticities are based on historical data and represent a conservative estimate of the impact of raising passenger fares. Actual BART ridership data for the fourth quarter of FY 95, which was the first period of higher fares, suggest that patronage erosion was on the order of 1% versus the 3.4% drop as shown above for a 15% fare increase (refer to page 2-17).

Load Factors

BART's current policy with regard to load factors is to provide capacity where possible such that the maximum average load factor for discretionary trains (i.e., those trains which BART can effectively alter) is 1.15 during peak periods and not more than 1.00 in the offpeak. This does not include the average for all peak period trains, as experienced by riders, but only for discretionary trains, and is used for scheduling purposes.

This SRTP assumes that sufficient peak period capacity would be provided to maintain actual current load factor conditions for all peak period trains throughout the ten year planning horizon. This means that, on average, load factors would not go above 1.35 in the peak hour, shoulder period load factors would average approximately 1.15, and offpeak service load factors would average no higher than 1.00.

Travel Times

The faster BART run times which took effect in June 1992 have been carried forward through the ten year planning period. Degradation of auto travel times is also assumed, reflecting increased highway congestion as growth in demand outstrips programmed highway improvements. This is consistent with the MTC travel model.

Extensions Service

BART's 1995 SRTP ridership and financial forecasts are based on the schedule as of Summer 1995 for the opening of new rail stations. These include North Concord/Martinez Station in Fall 1995, Colma Station in Winter 1995, Castro Valley and East Dublin/Pleasanton Stations in Summer 1996, and Pittsburg/Bay Point Station in Fall 1996. The extension of rail service south of Colma Station, consistent with the Alternative VI alignment, is assumed to open in FY 00.

The 1995 SRTP ridership and operating financial forecasts reflect only the above rail extensions to the core system, and do not include operations of any other rail facilities and services which are identified as Priority 1 and Priority 2 projects in BART's unfunded *Track Two* Capital Improvement Program. These projects include West Dublin/Pleasanton Station, Warm Springs Extension, West Contra Costa County Extension, extensions to points further east in Contra Costa and Alameda counties, and Commuter Rail. The District will continue to seek funding for these projects, and will include corresponding operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

It is assumed that the relationship between the supply and demand for BART station parking remains relatively unchanged. As identified in Figure 3-2, BART plans calls for the addition of 16,462 parking space at stations within the current ten year planning period. Of this number, 15,962 parking spaces are for extension stations and 500 are for expansion of core system parking facilities.

It is also assumed that transit services operated by other Bay Area agencies which interface with BART will approximate current levels. The one exception is the planned discontinuance of BART express bus routes which run parallel to rail extensions. It is assumed that these routes will be restructured and coordinated with rail service at extension stations when new service begins (refer to *Express Bus Service Plan*, below).

BASELINE RAIL RIDERSHIP FORECAST

As shown in Figure 3-3, BART's baseline ridership forecast calls for patronage to increase from 71.75 million trips in FY 96 to 104.61 million trips in FY 05. This forecast includes the impact of the January 1995 adopted fare package identified above, and without any additional fare increases in subsequent years.

Core System Ridership

The underlying assumption for the baseline ridership forecast is that core system use will grow at a rate of 1.25% annually without any increase in fares. This represents modest growth and is consistent with past trends relative to growth in population and employment. Note that, as discussed above, District population and employment over the next ten years are forecast to increase annually by an average of 1.0% and 1.9%, respectively. An increase for core system ridership of 1.25% annually is, therefore, at the low end of the population/employment growth range.

BART's baseline ridership forecast builds off the FY 95 actual of 72.05 million trips, which includes the impact of the 15% fare increase effective April 1, 1995. With the entire adopted fare increase package phased in by April 1997, and application of the above demand elasticities, core system ridership is forecast to reach 74.68 million trips in FY 05. This represents 0.4% annual average growth.

Figure 3-2

PARKING EXPANSION PLANS AT EXISTING & FUTURE STATIONS

EXISTING STATIONS	ACTUAL SPACES AS OF JUNE 1995	NEW SPACES TO BE ADDED IN FY 96	NEW SPACES FY 97 TO FY 05	TOTAL SPACES PROJECTED BY FY 05
SAN FRANCISCO LINE:				
Daly City	2,228	0	0	2,228
Glen Park	55	0	0	55
West Oakland (a)	424	0	0	424
Subtotal	**2,707**	**0**	**0**	**2,707**
FREMONT LINE:				
Fremont	2,494	0	0	2,494
Union City (b)	1,218	0	0	1,218
South Hayward	1,307	0	0	1,307
Hayward	1,939	0	0	1,939
Bay Fair	1,903	0	0	1,903
San Leandro	1,295	0	0	1,295
Coliseum	1,059	0	0	1,059
Fruitvale (b)	1,103	0	0	1,103
Lake Merritt	205	0	0	205
Subtotal	**12,523**	**0**	**0**	**12,523**
RICHMOND LINE:				
Richmond	796	0	0	796
El Cerrito del Norte	2,516	0	0	2,516
El Cerrito Plaza (c)	795	0	500	1,295
North Berkeley	840	0	0	840
Ashby	626	0	0	626
MacArthur	609	0	0	609
Subtotal	**6,182**	**0**	**500**	**6,682**
CONCORD LINE:				
Concord	2,518	0	0	2,518
Pleasant Hill	3,245	0 (d)	0	3,245
Walnut Creek	2,403	0	0	2,403
Lafayette	1,521	0	0	1,521
Orinda	1,380	0	0	1,380
Rockridge (b)	889	0	0	889
Subtotal	**11,956**	**0**	**0**	**11,956**
EXISTING STATIONS TOTAL	**33,368**	**0**	**500**	**33,868**
EXTENSION STATIONS				
DUBLIN LINE:				
Castro Valley	0	0	1,500	1,500
East Dublin/Pleasanton	0	0	2,800	2,800
Subtotal	**0**	**0**	**4,300**	**4,300**
PITTSBURG LINE:				
North Concord/Martinez	0	2,050	0	2,050
Pittsburg/Bay Point	0	0	2,025	2,025
Subtotal	**0**	**2,050**	**2,025**	**4,075**
WEST BAY LINE:				
Colma	0	2,250	0	2,250
South San Francisco	0	0	1,337	1,337
San Bruno	0	0	1,000	1,000
San Francisco Airport	0	0	0	0
Millbrae	0	0	3,000	3,000
Subtotal	**0**	**2,250**	**5,337**	**7,587**
EXTENSION STATIONS TOTAL	**0**	**4,300**	**11,662**	**15,962**
SYSTEM GRAND TOTAL	**33,368**	**4,300**	**12,162**	**49,830**

a. A future parking project is subject to reavaluation and identification of a funding source.

b. No plans are identified for Union City, Fruitvale, and Rockridge stations.

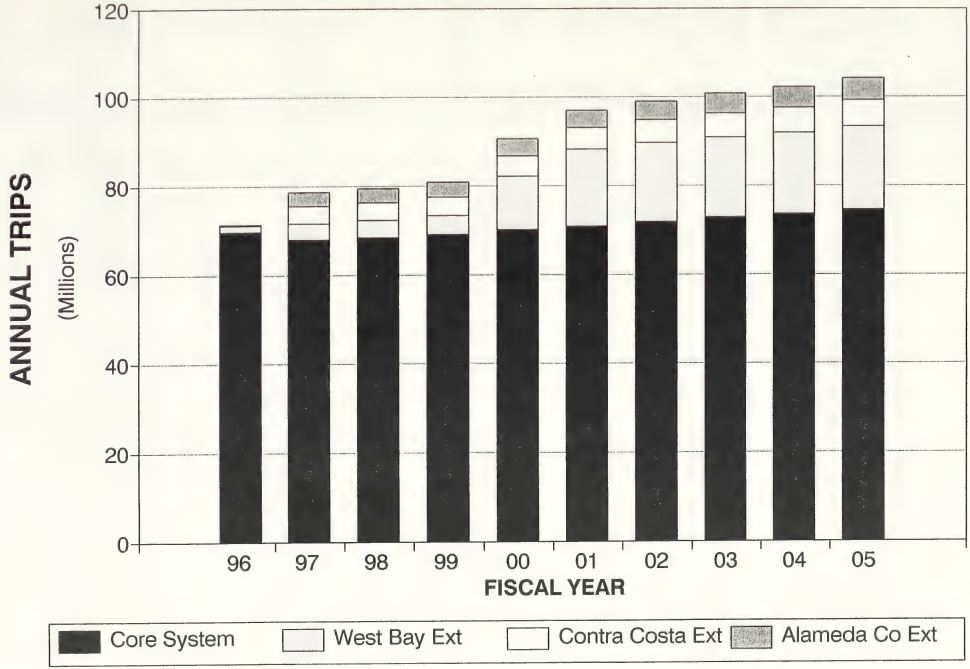
c. Contra Costa County Measure C provides funding for parking expansion in the City of El Cerrito. BART and the City are studying a possible future 500-space parking project at the El Cerrito Plaza Station.

d. Improved parking at Pleasant Hill Station will add 650 temporary spaces as a construction mitigation measure during I-680/24 reconstruction.

Figure 3 - 3

BART RIDERSHIP FORECAST

Core System and Extensions



Extensions Ridership

Ridership for extensions, which assumes the service start dates identified above, is consistent with the MTC regional travel model and SFO Extension environmental documentation for *Locally Preferred Alternative VI*. It is forecast that in FY 05, the nine extension stations will bring 29.90 million new trips to the BART system. This is 40% more than the forecast for the core system in the same fiscal year. This extensions ridership figure represents system use that would otherwise not have occurred on the core system via access/egress from any of the 34 existing stations. The following summarizes the incremental ridership for the Phase I rail extensions:

Contra Costa County Extension: The assumed Fall 1995 opening of North Concord/Martinez Station is forecast to bring 0.44 million new trips to BART in FY 96. This is forecast to increase to 4.02 million new trips in FY 97 and reflects the opening of Pittsburg/Bay Point Station in Fall 1996. Incremental ridership for these two extension stations is forecast to increase an average of 6.0% annually to 6.10 million trips in FY 05.

Alameda County Extension: The assumed Summer 1996 opening of Castro Valley and East Dublin/Pleasanton stations is forecast to add 3.29 million new trips to BART in FY 97. At 6.0% average annual growth, this is forecast to increase to 4.99 million trips in FY 05.

San Mateo County Extension: The Winter 1995 opening of Colma Station is forecast to add 1.70 million new trips to BART in FY 96. In FY 99, the last full year before the start of service to San Francisco Airport and Millbrae, Colma Station ridership is forecast to grow to 4.26 million trips. In FY 05, the five Peninsula extension stations south of Daly City are forecast to add 18.85 million new BART trips.

Systemwide Ridership

By FY 00, the BART system will have 43 stations and 101 miles of double-mainline track. Systemwide ridership is forecast to increase 46% from a budget of 71.75 million trips in FY 96 to 104.61 million in FY 05. This is 4.3% average annual growth, and includes the impact of the January 1995 fare increase package.

RAIL SERVICE PLAN

Ridership growth over the next ten years for both the core system and extensions will require a larger fleet, more trains, and more frequent service relative to today's schedule. Figure 3-4 summarizes how BART plans on expanding service to insure that sufficient capacity is available to accommodate the projected 46% gain in ridership, from 71.75 million trips budgeted for FY 96 to 104.61 million trips in FY 05. Key elements of this expansion plan, the details of which are presented below, call for:

Figure 3-4

BART SERVICE EXPANSION PLAN

	CARS									TRAINS			
FISCAL YEAR	CAR MILES millions	MAXIMUM ONLINE CARS	READY RESERVE CARS	YARD LOGISTICS CARS	SERVICE REQMNT	CARS IN FOR MAINT	FLEET REQMNT	PLANNED OPERATING FLEET	EXCESS (DEFICIT) CARS	MAX TOTAL TRAINS ONLINE	MAX TBAY TRAINS PER HOUR	MIN TBAY HEADWAY ALLOWED minutes	MIN TBAY HEADWAY NEEDED minutes
1995	45.00	406	40	8	454	98	552	587	35	43	17	2.25	3.00
1996	47.34	446	40	8	494	111	605	646	41	48	18	2.25	2.50
1997	54.41	459	50	8	517	111	628	650	22	57	21	2.25	2.50
1998	54.41	459	50	8	517	105	622	632	10	57	21	2.25	2.50
1999	54.41	459	50	8	517	104	621	632	11	57	21	2.25	2.50
2000	58.33	525	37	8	570	108	678	678	0	73	25	2.00	2.00
2001	62.25	530	28	8	566	112	678	678	0	73	25	2.00	2.00
2002	62.90	534	50	8	592	115	707	714	7	73	25	2.00	2.00
2003	63.23	538	50	8	596	116	712	714	2	73	25	2.00	2.00
2004	64.29	542	44	8	594	120	714	714	0	73	25	2.00	2.00
2005	64.65	543	41	8	592	122	714	714	0	73	25	2.00	2.00

- Increasing BART's fleet from 612 vehicles currently to 714 with receipt of the remaining 57 C2-cars from Morrison-Knudsen and 46 more cars as part of the extension to San Francisco Airport.

- Adding 30 trains to BART's peak period schedule, increasing the maximum number of online trains from 43 currently to 73.

- Increasing transbay service from the current schedule of 17 trains per hour to 25 per hour. This will require reducing the system's minimum scheduled headway capability from two-minutes fifteen seconds currently to two minutes or less by FY 00. This improvement will effectively allow for increasing transbay service to 30 trains or more per hour.

The achievement of this service expansion is predicated on the timely implementation BART's capital improvement program as documented in the CIP. This includes projects within the financially constrained *Track One* program, as well as other projects in *Track Two* for which funding sources have yet to be identified. The CIP builds off the operational parameters and requirements presented in this SRTP. Together, these two documents advocate and support BART's grant applications for project funding; improvements needed to keep the core system in top condition, complete extensions, and other upgrades/enhancements needed to support expanded operations. The following are some of the highlights from BART's *Capital Improvement Program* to support this expansion (see *CIP* for details):

- Rehabilitation of the original 439 A- and B-cars.

- Rehabilitation of stations, including automatic fare collection (AFC) equipment, escalators, and elevators.

- ADA accessibility improvements including other elevator enhancements, parking, and signs.

- Rehabilitation of communications and train control systems, including implementation of the advanced automatic train control system (AATC) to support two-minute minimum scheduled headway service.

- Rehabilitation of shops and yards, and replacement of maintenance and other essential equipment.

- Completion of extensions currently under construction and support of others, including extensions to San Francisco Airport, Warm Springs, Oakland Airport, Commuter Rail, and BART's Phase II extensions program.

- Completion of additional projects to support increased capacity, including additional vehicles, increased traction power, train control upgrades, reliability improvements,

installation of transit information centers in stations, and other station access improvements.

- Completion of BART's *Seismic Retrofit Program.*

- Continued research and development efforts for the purpose of seeking ways to improve operations through technological innovations and advancements.

Car Requirements

Future car requirements were forecast using BART's *Service Planning Model* which allocates system capacity by route. As shown in Figure 3-4, BART's online car requirements are forecast to increase from 406 currently to 543 in FY 05, reflecting the addition of 30 peak period trains over today's 43. It is also assumed that the fleet size will increase from 612 vehicles currently to 714 by the time service to San Francisco Airport begins in FY 00. Based on the assumptions used in this forecast, as discussed below and as shown in Figure 3-4, BART is anticipated to have a sufficient number of vehicles to meet projected demand.

Load Factors: Capacity is determined by accommodating projected demand at maximum screenlines for given load factors. As stated above, on page 3-4, the service plans in this SRTP are based on maintaining current peak period load factor conditions on all peak trains. This means averaging a 1.35 load factor during peak hour operations, 1.15 during the shoulder periods, and a maximum load factor of 1.00 for offpeak service. Note that these load factors represent *targets*. Actual allocation of capacity may differ as impacted by system operating constraints, special requirements, and/or other considerations as discussed below.

Captive Fleet Program: Allocation of capacity assumes continuation of BART's *Captive Fleet Program* which assigns individual cars to a specific yard. This program has helped BART improve vehicle reliability and will become even more important as the fleet expands. Accordingly, the service plans include individual cars arriving at the same yard from which they were dispatched earlier in the day.

Modular Train Sizing: The service plans also respect *modular train sizing*. BART has developed and uses this scheduling strategy for optimum use of its varied vehicle fleet and to minimize labor requirements in the yards for altering train lengths throughout the day. BART currently sizes trains on a *5/5* basis for transbay service and on a *3/6/9* basis for the East Bay route. This means that the transition from the morning peak to midday service, for example, can easily be accommodated by splitting each 10-car transbay train in half to form two 5-car trains. On the East Bay route, 9-car trains can be split up into three 3-car trains, or one 6-car train and one 3-car train. The transition from midday to the afternoon peak service involves the reverse procedure. Experience has shown that the labor savings and service benefits of modular train sizing outweigh its disadvantages which include running trains that are somewhat longer than actually needed, adding power and maintenance expense.

Minimum Service Frequencies: In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service would be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: North Concord/Martinez-Transbay, East Dublin/Pleasanton-Transbay, and Richmond-Fremont.

Service by Route and Extensions: Figure 3-5 summarizes the online train and car requirements by route. Note that each route has been given a new *color designation* based on system route maps located in each BART car and station, as well as in information brochures. These car and train requirements are based on the following service assumptions:

- *YELLOW LINE*, North Concord/Martinez-Transbay Route. Service to North Concord/ Martinez and Pittsburg/Bay Point stations will be an extension of current Concord-Transbay service at a frequency of no less than a train every 15 minutes north of Concord Station. Higher frequency service may be added to maintain load factors within policy limits. South of Daly City Station, weekday Yellow Line service is assumed to be no greater than a train every 15 minutes. Other Yellow Line trains are to reverse direction at Daly City Station.

- *RED LINE*, Richmond-Transbay Route. Service south of Daly City Station will be an extension of Richmond-Transbay service, at a service frequency no greater than a train every 15 minutes.

- *GREEN LINE*, Fremont-Transbay Route. Service is assumed to be operated on this route as it is currently with trains reversing direction at Daly City Station for the return trip to Fremont.

- *BLUE LINE*, East Dublin/Pleasanton-Transbay Route. Service on this new route is assumed to operate all day at a minimum weekday base headway of 15 minutes. Plans call for trains on this route to reverse direction at Daly City Station for the return trip to East Dublin/Pleasanton.

Symmetrical Route Merging and Minimum Headways: Train merging from individual routes onto common track through downtown Oakland requires symmetrical headway operations. This means that service must be provided on each route at the same headway or one that is an even multiple of it. It is also assumed that once any given route requires closer-headway service at higher frequencies, headways would be adjusted for all other routes to maintain proper train merging. This situation is projected to occur in FY 00 when demand on the *Red Line* (Richmond-Transbay route) requires one additional peak hour train, up from four trains per hour to five. Accordingly, peak hour headways on all other routes are assumed to be revised from a train every 15 minutes to one every 12 minutes. The one exception is service on the *Yellow Line* (Concord-Transbay route) which is to be provided at double the frequency during peak periods, or a train every six minutes. This reduction in headways results in an increase in the number of online trains and effectively reduces average train lengths.

Figure 3-5

1995 SRTP
TRAINS AND CARS ONLINE
ROUTE SUMMARY

TOTAL ONLINE TRAIN SUMMARY, BY ROUTE

FISCAL YEAR	RED *Richmond*	YELLOW *Concord*	GREEN *Fremont*	BLUE *East Dublin*	TRANSBAY SUBTOTAL	ORANGE *East Bay*	SYSTEM TOTAL
1995	8	16	10	---	34	9	43
1996	9	18	11	---	38	10	48
1997	9	19	10	9	47	10	57
1998	9	19	10	9	47	10	57
1999	9	19	10	9	47	10	57
2000	13	24	13	11	61	12	73
2001	13	24	13	11	61	12	73
2002	13	24	13	11	61	12	73
2003	13	24	13	11	61	12	73
2004	13	24	13	11	61	12	73
2005	13	24	13	11	61	12	73

TOTAL ONLINE CAR SUMMARY, BY ROUTE

FISCAL YEAR	RED *Richmond*	YELLOW *Concord*	GREEN *Fremont*	BLUE *East Dublin*	TRANSBAY SUBTOTAL	ORANGE *East Bay*	SYSTEM TOTAL
1995	80	160	100	---	340	66	406
1996	90	180	110	---	380	66	446
1997	75	190	80	60	405	54	459
1998	75	190	80	60	405	54	459
1999	75	190	80	60	405	54	459
2000	100	228	84	62	474	51	525
2001	102	228	84	62	476	54	530
2002	102	232	84	62	480	54	534
2003	106	232	84	62	484	54	538
2004	106	236	84	62	488	54	542
2005	106	236	84	62	488	55	543

The transition to a 12-minute route headway will require the capability to operate the system at a minimum scheduled headway of two minutes. The *Advanced Automatic Train Control* (AATC) system will be required for this level of service. This project is assumed to be completed and in operation by the time it is needed in FY 00 as noted above. With AATC, peak hour transbay service will increase to 25 trains per hour (i.e., five trains per hour on each of the *Red Line, Green Line, and Blue Line*, and ten trains per hour on the *Yellow Line*). With a 30-train per hour maximum schedule capability assumed for AATC, BART is forecast to have five train *slots* remaining and available for future expansion of service beyond the level planned for FY 05.

Maintenance Requirements: As shown in Figure 3-4, BART currently has an average of 98 cars in for maintenance at any given time. With the projected expansion of the fleet to 714 cars by FY 05, the number of cars in for maintenance will need to increase to 122.

Yard Logistics Cars: BART allocates two cars per maintenance yard for logistical moves in assembling and disassembling trains. Accordingly, eight cars have been carried forward throughout the planning period for this purpose.

Ready Spare Cars and Car Deficits: The current practice of allocating a sufficient number of cars to form one 10-car train for each terminal station has been carried forward in formulating the service plans. Under this assumption, the current 40-car requirement would increase to 50 cars when service to East Dublin/Pleasanton begins in Summer 1996. It is also assumed that ready spare vehicles are to be placed in service when car deficits arise. This condition is illustrated in Figure 3-4 in FY 00 and FY 01, when online car requirements necessitate the use of ready spares, reducing the spares to under 50. Note that during these two fiscal years, 36 vehicles are continually rotated out of the fleet in accordance with the schedule for completing the *Car Rehabilitation Program*. Once this program is completed in May 02, the operating fleet is effectively 36 cars larger, allowing for a return to the practice of maintaining 50 cars as ready spares. However, forecast growth in demand gradually consumes the available capacity such that some ready reserve cars are once again needed for service beginning in FY 04.

EXPRESS BUS SERVICE PLAN

The proposed modifications for BART express bus routes focus on improving the performance of this service. This is to be accomplished through route revisions and integration with new rail service. The following summarizes BART's proposal for its express bus service (refer to Figure 1-5 for current service details by route):

State Route-4 Corridor

Express bus service is currently provided on four routes between Concord Station and Martinez in the central part of Contra Costa County; and between Concord Station and Pittsburg, Antioch,

and Brentwood in the eastern portion of the county. Route modifications are proposed for implementation with the start of new rail service in this corridor as follows:

Route ME: This route currently operates daily between Concord Station and Martinez. Effective Fall 1995, service is to be discontinued to Concord Station with a new route terminal established at North Concord/Martinez Station. When Pittsburg/Bay Point Station opens in Fall 1996, BART proposes to discontinue this route.

Route PE: This route currently operates on weekdays between Concord Station and Antioch. Effective Fall 1995, service is to be discontinued to Concord Station with a new route terminal established at North Concord/Martinez Station. When Pittsburg/Bay Point Station opens in Fall 1996, BART proposes to make this rail station the new western terminal for the PE express bus route, which would also be extended eastward to Brentwood.

Route PE1: This route currently operates on weekdays between Concord Station and Brentwood. Effective Fall 1995, service is to be discontinued to Concord Station with a new route terminal established at North Concord/Martinez Station. It is proposed that this express bus route's terminal be relocated again in Fall 1996 to Pittsburg/Bay Point Station when new rail service begins; and, to provide new weekend service from 7 a.m. to 10 p.m.

Route PE2: This route currently operates daily to Brentwood. Effective Fall 1995, BART proposes to discontinue service to Concord Station and relocate the route terminal to North Concord/Martinez Station. In Fall 1996 when Pittsburg/Bay Point Station opens and PE1 service is extended to weekends, it is proposed that this route be discontinued.

Interstate-580 Corridor

Express bus service is currently provided on four routes between Hayward and Bay Fair stations in the west and the Livermore Valley via I-580 to the east. Route modifications and the addition of a new express bus route are planned for implementation with the start of rail service in this corridor. The proposed express bus service in this corridor is as follows:

Route U: This route currently operates daily between Hayward Station and Pleasanton. Plans call for discontinuing service on this route effective Summer 1996 when rail service to Castro Valley and East Dublin/Pleasanton stations begins.

Route UX: This route currently operates on weekdays during peak hours only between Bay Fair Station and Pleasanton. This route is also slated to be discontinued effective Summer 1996 when rail service to Castro Valley and East Dublin/Pleasanton stations begins.

Route UL: This route currently operates weekdays between Bay Fair Station and Livermore. Effective Summer 1996, the western terminal for this route is to be relocated to East Dublin/Pleasanton Station with service discontinued west of this station.

Route UP: This route currently operates on weekdays during peak hours only between Bay Fair Station and Hacienda Business Park in Pleasanton. BART proposes to discontinue this route effective Summer 1996 when rail service to Castro Valley and East Dublin/Pleasanton stations begins.

Route UE: BART proposes to implement a new *Freeway Flyer* route with service to be provided weekdays during peak hours only between East Dublin/Pleasanton Station and the Lawrence Livermore National Laboratory. The start of service for this new express bus route will be coordinated with the Summer 1996 opening of the East Dublin/Pleasanton Station.

Interstate-680 Corridor

Express bus service is currently provided on two routes between BART's Walnut Creek Station and Pleasanton via I-680. Route modifications proposed for this corridor are as follows:

Route DX: This route currently operates on weekdays between Walnut Creek Station and Hacienda Business Park in Pleasanton. A reduction in midday and evening service is proposed, along with establishing East Dublin/Pleasanton Station as the new southern terminal for this route when rail service begins to this station.

Route D: This route currently operates on weekends between Walnut Creek Station and Stoneridge Mall in Pleasanton. BART proposes to reduce this route's bus requirement from three to two vehicles by streamlining the route, resulting in reduced run times and faster service.

Interstate-80 Corridor

Express bus service is currently provided on three routes between BART's El Cerrito del Norte Station and Pinole, Hercules, and Rodeo via I-80. Planned route modifications in this corridor are as follows:

Route J: This route currently operates daily between its southern terminal at El Cerrito del Norte Station and Pinole and Hercules to the north. BART proposes to continue service on this route as currently provided.

Route JX: This route currently operates on weekdays during peak hours only between El Cerrito del Norte Station and Pinole and Hercules. Caltrans funds this service as a construction mitigation measure related to I-80 construction work. No revisions are proposed for this route through FY 97, per Caltrans' commitment to provide funding for this route through June 1997.

Route Q: This route currently operates on weekdays during peak hours only between El Cerrito del Norte Station and Pinole. Based on an analysis of ridership, BART proposes to reduce the schedule by two bus runs out of a total of 40 per weekday.

ADA PARATRANSIT SERVICE PLAN

During FY 96, BART will execute cost-sharing agreements for ADA paratransit services with LAVTA, WCCTA, and Tri-Delta Transit. This will add to the agreements already in place between BART and MUNI, AC Transit, and CCCTA; and, will expand the travel opportunities for BART riders requiring ADA paratransit services.

Execution of these additional cost-sharing agreements, coupled with the implementation of a formula for apportioning *East Bay Paratransit Consortium* costs and revenues, will round out the initial implementation phase of BART's paratransit program. It is anticipated that in FY 97, BART and local transit operators will increase paratransit service in order to come into full compliance with the ADA Act. The level of service for BART is forecast to result in an increase in paratransit ridership from approximately 183,500 trips in FY 96 to 569,000 trips in FY 98, the first full fiscal year ADA compliance service.

CHAPTER 4

FISCAL YEAR FORECASTS & FINANCIAL PLAN

BART's SRTP financial plan focuses on the District's operating budget for fiscal years 1996 through 2005. All sources of revenue, expense, and financial assistance are identified. The starting point for the financial projections is BART's FY 96 adopted operating budget, the focus of the next section.

Following the discussion of the FY 96 budget, is the presentation of BART's *Baseline Financial Forecast*, along with the underlying assumptions. Projected out-year deficits are addressed in subsequent sections, which frame BART's fiscal challenges within two scenarios. Included in this analysis is a scenario developed in response to the Metropolitan Transportation Commission's (MTC) requirement that SRTPs identify a *fiscally constrained alternative* based on MTC's projections for financial assistance.

FY 96 ADOPTED OPERATING BUDGET

BART's adopted operating budget for FY 96 is summarized in Figure 4-1. This financial statement provides for full support during the fiscal year for core system operations and the long-awaited start of extensions service. The FY 96 operating budget also funds BART's ADA paratransit deficit and bond debt service for system rehabilitation. The budget includes $240.11 million in operating revenue and financial assistance, which are net of debt service and allocations, balancing an equal amount in operating expense. BART's FY 96 operating budget provides funding for direct service improvements including:

- Increased service levels due to extensions
- ADA paratransit service
- Improved station cleaning and vehicle appearance
- Faster repair of elevators and escalators
- Increased police presence through decentralization
- Adherence to stricter standards for rail maintenance and car wheels

Aggressive cost-containment measures were implemented to balance the fiscal requirements of the above activities, and others related to the additional investment for improving employee skills, opportunities, and productivity. Cost-containment efforts built upon measures implemented in prior years and include organizational streamlining and elimination of 39 management positions effective January 1, 1996, implementation of provisions in labor contracts for instituting pay progression, and modifications to express bus service in conjunction with start of extensions service. Additionally, further savings resulted from lower medical insurance costs and favorable workers' compensation claims.

The revenue side of the District's FY 96 operating budget is conservative. No change in core system ridership relative to FY 95's actual is assumed other than erosion due to the continued implementation of the January 1995 adopted fare increase package. The FY 96 operating budget delivers on the promise not to use any of the fare increase proceeds to balance the core system's financial requirements. The FY 96 budget allocates the fare increase proceeds to fund BART's ADA service deficit, system rehabilitation bond debt service, and for extensions operations.

Figure 4 - 1

FY 96 BART OPERATING BUDGET

All Figures in Thousands

REVENUE	
Net Rail Passenger Revenue	$123,357
San Mateo County Surcharge Revenue	(1,337)
Net Express Bus Passenger Revenue	1,214
ADA Service Passenger Revenue	120
Total Net Passenger Revenue	**123,354**
Interest Revenue	7,190
Other Operating Revenue	3,987
Subtotal Non-Fare Revenue	11,177
Total Operating Revenue	**134,531**
EXPENSE	
Net Labor	168,483
Express Bus Service	6,934
Shuttle Service	95
Purchased Transportation	1,654
ADA Service	2,521
Power, Traction & Station	21,864
Other Non-Labor	38,561
PERS	0
Total Operating Expense	**240,112**
OPERATING DEFICIT	**(105,581)**
FINANCIAL ASSISTANCE	
Sales Tax (BART 75%)	118,481
Property Tax	13,529
ADA Assistance	702
TDA State Assistance	595
San Mateo County	1,113
Cost Allocation Plan Reimbursement	2,248
Total Financial Assistance	**136,668**
DEBT SERVICE & ALLOCATIONS	
C-Car Revenue Bond Debt Service	(19,819)
New Bond Debt Service	(9,020)
Other Capital Allocations	(2,248)
Miscellaneous Other	0
Total Debt Service & Allocations	**(31,087)**
FINANCIAL RESULT	**$0**

FY 96 Operating Revenue

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified as follows:

Net Passenger Revenue: Total passenger revenue for FY 96, budgeted at $123.35 million, is 18.7% higher than FY 95's actual of $103.88 million. This gain reflects the addition of extensions ridership and a full year's impact of the April 1, 1995 15% fare increase and reduction in discounts, compounded by the April 1, 1996 13.0% increase during the last quarter of the FY 96. Budgeted rail passenger revenue for FY 96 is net of $1.34 million in Colma Station surcharges, which are to be returned to SamTrans per the current cost-sharing agreement. Express bus revenue for FY 96 is budgeted at the same level as FY 95's actual, at $1.21 million. This reflects decreased express bus ridership, which is assumed to shift to new rail extension service. Lower express bus ridership is offset by higher fares, resulting in no growth in revenue over FY 95. ADA paratransit service passenger revenue is budgeted at $0.12 million for the year.

Non-Fare Revenue: Revenue from non-fare sources includes interest income on operating fund balances. This is budgeted at $7.19 million in FY 96, 18.4% under FY 95's $8.81 million. Offsetting lower interest earnings is a 3.6% increase for other sources of revenue, from $3.85 million in FY 95 to a budget of $3.99 in FY 96. This increase includes a $100,000 in additional joint development revenue.

FY 96 Operating Expense

Total operating expense for FY 96, which includes extensions, is budgeted at $240.11 million. This is 10.0% above FY 95's actual of $218.33 million which did not have extensions service. Operating expense for the core system alone is slated to increase 2.4% over FY 95's actual. The remaining increase in expense is for funding operation of extensions, ADA paratransit, and debt service for system rehabilitation.

Labor Expense and Staffing: Labor expense, which constitutes approximately 70% of BART's operating budget, is set to rise 10.1% from $152.97 million in FY 95 to $168.48 million in FY 96. Labor expense increase for the core system alone is 4.7%, and reflects:

- FY 95 labor credits for service impacts of Colma Station construction
- Transfer of holiday buy-back expense from FY 95 to FY 94
- Addition of 17 new training positions in FY 96
- Addition of 5 station and car system service workers in FY 96
- Additional labor expense in FY 96 for improved safety and security
- Increased wage, benefit, and other labor costs

As stated above, the costs of a 2% wage increase and other benefit increases to the largest unions were offset by cost-containment measures, organizational streamlining and management reductions, lower medical costs, and lower workers' compensation claims costs. Growth for the FY 96 labor budget reflects District staffing increases, which are 258 FTEs higher than FY 95's budget. Extensions service accounts for 219 FTEs. The remaining 39 positions are for training, system cleanliness, and positions to reduce overtime expense.

Express Bus Service Expense: The expense for BART express bus operations is budgeted to decrease 2.2% from $7.09 million in FY 95 to $6.93 million in FY 96. This decrease reflects the service modifications identified in Chapter 3. Additionally, express bus expense includes the hourly rates anticipated to be specified in the new Laidlaw contract which is to become effective in January 1996.

ADA Paratransit Service Expense: FY 96 is a transition year for phasing of BART's ADA paratransit program which began in the latter part of FY 95. This buildup of new ADA service is reflected by the large increase in expense from FY 95's actual of $0.74 million to $2.52 million budgeted in FY 96.

Power Expense: Station and traction power expense constitutes approximately 10% of the District's operating budget. Power expense is targeted to increase 15.9% from FY 95's actual of $18.86 million to $21.86 million in FY 96. The power budget for the core system in FY 96 is $20.58 million and $1.28 million for extensions. The FY 96 budgeted power expense does not include anticipated legislation which would provide for purchase of preference power from federal marketing agencies. The District continues to negotiate with PG&E for the purpose of securing lower power costs and greater flexibility in selecting suppliers.

Other Non-Labor Expense: This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities, and other miscellaneous items. Non-labor expense is budgeted at $38.56 million in FY 96, 4.6% above FY 95's actual of $36.88 million. Extensions account for nearly all of this increase.

FY 96 Financial Assistance

The District's FY 96 operating budget includes 7.0% growth in financial assistance, from FY 95's actual of $127.74 million to $136.67 million budgeted in FY 96. The sources of this financial assistance are to come from five sources. These are discussed as follows:

Sales Tax: The sales tax rates in the current three-District counties include a dedicated 0.5% transit operating subsidy. BART receives 75% of this amount, with the remaining 25% shared by MUNI and AC Transit. In FY 95, BART received $115.19 million from sale tax, up 4.9% from FY 94, and the largest year-to-year gain since the national recession hit California in 1991. Sales tax revenue is slated to grow 2.9% in FY 96 to $118.48 million.

Property Tax: BART also receives a portion of property tax proceeds in the three-District counties to cover operating expenses. At the time that the FY 96 budget was being developed, property tax revenue for FY 95 was expected to approximate the budgeted amount of $12.76 million. The FY 96 budget set property tax revenue $13.53 million, 6.0% above FY 95's estimated actual. This increase is substantially below the annual increases experienced in the 1980s, which were in the range of 8% to 10% per year. FY 95's actual for property tax came in at $12.00 million, 6.3% under budget. The net effect of this is that BART would need to realize property tax revenue growth in FY 96 12.7% above FY 95's actual to make budget.

STA Assistance: BART traditionally has allocated STA assistance to its capital budget. However, STA is now identified as a funding source for ADA paratransit service expense. Accordingly, the District's operating budget includes $0.49 million in STA funds for ADA.

TDA Assistance: In recent years, BART has received on the order of $0.50 million in TDA funds annually for operating purposes. The FY 96 operating budget includes a total of $0.81 million in TDA, $0.21 million of which are for ADA.

San Mateo County Subsidy: This is a new source of operating funds which is provided by San Mateo County in exchange for BART rail service south of Daly City Station. The District has $1.11 million budgeted from this new source in FY 96. SamTrans has a similar amount in its fiscal year budget to support this service expense.

Cost Allocation Plan: Beginning in July 1994, the District implemented a *Cost Allocation Plan*. This plan has been approved by FTA and allows for the transfer of capital funds to operations to offset the operating expense of administering its capital program. The FY 96 budget identifies $2.25 million as a credit from BART's capital budget, and is shown under *Financial Assistance*. This line item is transparent to the operating budget, since an equal amount is shown under *Debt Service and Allocations*, as discussed below.

Debt Service and Allocations

BART's financial requirements traditionally have included the funding of certain obligations from its operating budget including bond debt service and contributions to capital. These line items are discussed as follows:

C-Car Revenue Bond Debt Service: This includes amounts for servicing the debt on the 1990 and 1991 issues of bonds used to purchase 80 additional cars. The FY 96 budget includes $19.82 million for this purpose.

New Bond Debt Service: This line item is new to BART's operating budget starting in FY 96. This is for the debt service on the first of four issues of bonds, the proceeds of which are to be used for system rehabilitation and other portions of BART's capital program. The amount budgeted for this purpose in FY 96 is $9.02 million.

Miscellaneous and Other Allocations: As identified above, the District implemented a *Cost Allocation Plan* in July 1994 which allows transfers of capital funds to operations to offset the operating expense of administering its capital program. The $2.25 million allocation shown under this budget category offsets the credit of the same amount included in *Financial Assistance* shown above.

FY 96 Financial Result and Indicators

The District's FY 96 operating budget is balanced, with sources of income equal to expense. Budgeted financial performance is favorable relative to levels achieved in prior years, and reflects the impact of the scheduled fare increases as well as efforts to contain costs and improve productivity.

Farebox Ratio: The farebox ratio for rail operations is slated to increase from 49.2% in FY 95 to 53.9% in FY 96. BART express bus operations are budgeted to return 17.5% of this service's contract expense. This compares to 16.7% in FY 95. The farebox ratio for the system is budgeted to be 51.4% in FY 96, up from 47.6% in FY 95.

Operating Ratio: The systemwide operating ratio is slated to increase from FY 95's actual of 53.4% to 56.0% in FY 96.

Rail Cost Per Passenger Mile: BART's rail cost per passenger mile was 23.0¢ in FY 95. The FY 96 budget calls for this productivity measure to come in at 24.9¢, and reflects the additional front-loaded expense of phasing in extensions service relative to the forecast buildup of ridership.

BASELINE FINANCIAL FORECAST FOR FY 97 THROUGH FY 05

BART's baseline financial forecast is presented in Figure 4-2. This financial statement keys off FY 95 actuals and the FY 96 budget, and includes the impact of the January 1995 adopted fare increase package. The baseline forecast includes no additional fare increases, no changes in discounts, nor any other revisions to remaining elements in BART's fare structure (Figure 1-6). The baseline forecast includes deficit reduction measures and other adjustments to revenue and expense. These items are summarized in Figure 4-3 and are discussed below.

The following sections present BART's baseline out-year financial forecast which is projected to result in a cumulative operating budget deficit of $294.43 million by FY 05. As summarized in Figure 4-2, this forecast consists of projections for revenue, expense, debt service and allocations, and financial assistance. The process used to develop the baseline forecast is discussed, including the underlying assumptions for each element. This discussion forms the basis for subsequent sections in this chapter which present two scenarios for eliminating the baseline forecast's deficits.

Figure 4 - 2

BART BASELINE FINANCIAL FORECAST

Adopted Fare Increases, No Other Fare Increases, BART Forecast of Sales Tax

All Figures in Thousands of Dollars

	FY 96 BUDGET	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
REVENUE										
Net Rail Passenger Revenue	123,357	152,648	167,715	171,486	190,632	206,206	209,924	213,705	217,547	221,305
San Mateo Co. Surcharge Revenue	(1,337)	(3,405)	(3,773)	(3,830)	(6,854)	(9,864)	(9,916)	(9,968)	(10,020)	(10,073)
Net Express Bus Passenger Revenue	1,214	771	835	839	843	847	851	856	860	864
ADA Service Passenger Revenue	120	483	1,254	1,255	1,257	1,258	1,260	1,262	1,263	1,265
Total Net Passenger Revenue	123,354	150,498	166,030	169,750	185,878	198,447	202,120	205,854	209,650	213,361
Interest Revenue	7,190	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800
Other Operating Revenue	3,987	4,376	4,921	5,270	5,525	5,685	5,851	6,022	6,200	6,384
Subtotal Non-Fare Revenue	11,177	12,176	12,721	13,070	13,325	13,485	13,651	13,822	14,000	14,184
Total Operating Revenue	**134,531**	**162,674**	**178,751**	**182,820**	**199,203**	**211,932**	**215,771**	**219,677**	**223,650**	**227,545**
EXPENSE										
Net Labor	168,483	189,067	193,504	200,099	216,589	237,622	249,904	261,604	272,924	283,884
Express Bus Service	6,934	4,558	4,718	4,883	5,054	5,230	5,411	5,604	5,800	6,000
Shuttle Service	95	99	102	106	109	113	117	121	126	130
Purchased Transportation	1,654	1,712	1,772	1,834	1,898	1,965	2,033	2,105	2,179	2,254
ADA Service	2,521	5,369	8,749	9,055	9,372	9,700	10,039	10,391	10,755	11,131
Power, Traction & Station	21,864	25,174	26,074	27,094	29,811	32,986	34,406	35,706	37,459	38,958
Other Non-Labor	38,561	40,964	42,432	44,176	47,948	51,501	53,556	55,557	57,816	60,088
PERS	0	0	14,500	15,008	15,533	16,076	16,639	17,221	17,824	18,448
Total Operating Expense	**240,112**	**266,942**	**291,852**	**302,255**	**326,315**	**355,194**	**372,105**	**388,309**	**404,882**	**420,891**
OPERATING DEFICIT	**(105,581)**	**(104,268)**	**(113,101)**	**(119,434)**	**(127,112)**	**(143,262)**	**(156,335)**	**(168,633)**	**(181,232)**	**(193,346)**
FINANCIAL ASSISTANCE										
Sales Tax (BART 75%)	118,481	122,924	127,534	132,316	137,278	142,426	147,767	153,308	159,057	165,022
Property Tax	13,529	13,529	14,205	14,915	15,661	16,444	17,266	18,130	19,036	19,988
ADA Assistance	702	1,577	1,502	1,517	1,532	1,547	1,563	1,578	1,594	1,610
TDA State Assistance	595	470	448	417	377	324	353	385	420	471
San Mateo County	1,113	1,860	2,110	3,240	4,380	4,280	4,290	4,160	4,490	5,000
Cost Allocation Plan Reimbursement	2,248	2,327	2,408	2,493	2,580	2,670	2,764	2,860	2,961	3,064
Total Financial Assistance	**136,668**	**142,686**	**148,207**	**154,898**	**161,808**	**167,692**	**174,003**	**180,422**	**187,558**	**195,155**
DEBT SERVICE & ALLOCATIONS										
C-Car Revenue Bond Debt Service	(19,819)	(19,949)	(20,075)	(20,179)	(20,269)	(20,379)	(20,490)	(20,611)	(20,741)	(20,891)
New Bond Debt Service	(9,020)	(9,994)	(18,744)	(25,653)	(39,674)	(39,671)	(39,673)	(39,672)	(39,674)	(39,672)
Other Capital Allocations	(2,248)	(2,327)	(2,408)	(2,493)	(2,580)	(2,670)	(2,764)	(2,860)	(2,961)	(3,064)
Miscellaneous Other	0	0	0	0	0	0	0	0	0	0
Total Debt Service & Allocations	**(31,087)**	**(32,270)**	**(41,228)**	**(48,325)**	**(62,523)**	**(62,720)**	**(62,926)**	**(63,144)**	**(63,376)**	**(63,628)**
ANNUAL FINANCIAL RESULT	**0**	**6,149**	**(6,122)**	**(12,862)**	**(27,827)**	**(38,290)**	**(45,258)**	**(51,355)**	**(57,050)**	**(61,819)**
CUMULATIVE BALANCE	**(0)**	**6,149**	**27**	**(12,835)**	**(40,661)**	**(78,952)**	**(124,209)**	**(175,564)**	**(232,614)**	**(294,433)**

Figure 4 - 3

DEFICIT REDUCTION EXPENSE & REVENUE ADJUSTMENTS

BART BASELINE FINANCIAL FORECAST

All Figures in Thousands

	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
CORE SYSTEM EXPENSE:									
LABOR									
Colma Yard Labor Credit Ends	983	1,018	1,053	1,090	1,128	1,168	1,209	1,251	1,295
Holiday Buy-Back (one-time)	900	0	0	0	0	0	0	0	0
Pay Progression Savings	(960)	(1,870)	(3,130)	(3,080)	(2,650)	(2,370)	(2,200)	(2,040)	(1,880)
Other Labor Contract Savings	(570)	(1,150)	(1,190)	(1,232)	(1,275)	(1,320)	(1,366)	(1,414)	(1,463)
39 Mgmt Head Reduction	(1,615)	(1,671)	(1,730)	(1,790)	(1,853)	(1,918)	(1,985)	(2,054)	(2,126)
Increase Vacancy Rate	(1,242)	(1,285)	(1,330)	(1,377)	(1,425)	(1,475)	(1,527)	(1,580)	(1,635)
Subtotal	(2,503)	(4,959)	(6,327)	(6,389)	(6,075)	(5,915)	(5,869)	(5,837)	(5,810)
POWER									
Colma Yard Power Credit Ends	259	268	277	287	297	307	318	329	341
Traction, Rate Decrease	(370)	(383)	(397)	(398)	(400)	(414)	(428)	(443)	(459)
Station, Lighting Efficiencies	(444)	(460)	(476)	(492)	(510)	(528)	(546)	(565)	(585)
Subtotal	(556)	(575)	(595)	(604)	(613)	(634)	(656)	(679)	(703)
CORE SYSTEM ADJUSTMENTS	(3,059)	(5,534)	(6,922)	(6,993)	(6,687)	(6,549)	(6,525)	(6,516)	(6,513)
EXTENSIONS EXPENSE:									
LABOR									
Decreased Vacancy Factor	0	0	0	0	1,874	3,879	6,022	6,233	6,451
SF Airport Extension	1,302	1,477	2,268	3,066	2,996	3,003	2,912	3,143	3,500
Subtotal	1,302	1,477	2,268	3,066	4,870	6,882	8,934	9,376	9,951
POWER									
Extensions Portion of Rate Decrease	(65)	(68)	(70)	(85)	(100)	(103)	(107)	(111)	(115)
SF Airport Extension	186	211	324	438	428	429	416	449	500
Subtotal	121	143	254	353	328	326	309	338	385
OTHER NON-LABOR									
SF Airport Extension	372	422	648	876	856	858	832	898	1,000
EXTENSIONS ADJUSTMENT	1,795	2,042	3,170	4,295	6,054	8,065	10,075	10,612	11,336
SYSTEM EXPENSE ADJUSTMENTS	(1,264)	(3,492)	(3,752)	(2,698)	(633)	1,517	3,550	4,096	4,823
ADJUSTED LINE ITEM EXPENSE:									
LABOR									
Calibrated Model Output	190,269	196,986	204,158	219,912	238,827	248,937	258,539	269,385	279,743
Adjustments	(1,201)	(3,482)	(4,059)	(3,323)	(1,205)	967	3,065	3,539	4,141
Adjusted Labor	189,067	193,504	200,099	216,589	237,622	249,904	261,604	272,924	283,884
POWER									
Calibrated Model Output	25,609	26,506	27,435	30,062	33,271	34,714	36,053	37,800	39,275
Adjustments	(435)	(432)	(341)	(251)	(284)	(308)	(347)	(341)	(318)
Adjusted Power	25,174	26,074	27,094	29,811	32,986	34,406	35,706	37,459	38,958
OTHER NON-LABOR									
Calibrated Model Output	40,592	42,010	43,528	47,072	50,645	52,698	54,725	56,918	59,088
Adjustments	372	422	648	876	856	858	832	898	1,000
Adjusted Power	40,964	42,432	44,176	47,948	51,501	53,556	55,557	57,816	60,088
SYSTEM REVENUE:									
MUNI Fastpass, additional	700	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Base Passenger Revenue	151,948	166,115	169,886	189,032	204,606	208,324	212,105	215,947	219,705
Adjusted Passenger Revenue	152,648	167,715	171,486	190,632	206,206	209,924	213,705	217,547	221,305
Add'l Joint Development Revenue	250	650	850	950	950	950	950	950	950
Base Non-Fare Revenue	4,126	4,271	4,420	4,575	4,735	4,901	5,072	5,250	5,434
Adjusted Non-Fare Revenue	4,376	4,921	5,270	5,525	5,685	5,851	6,022	6,200	6,384

Rail Passenger Revenue

The underlying basis for projecting rail passenger revenue, before deduction of San Mateo County surcharge revenue, is the rail ridership forecast presented in Chapter 3. A systemwide average trip length, by fiscal year, is derived from model-generated origin/destination data. The model also identifies trips involving Transbay and San Mateo County station use, for which surcharges apply. Average rail fares are identified by applying BART's distance-based fare structure to the average trip length. Added to this amount is the weighted average surcharge per trip. The resulting average fare is then discounted to a *net average fare* to reflect the mix of BART ticket types and the discounts they provide. Annual rail passenger revenue is the product of the net average fare and total annual ridership. In calculating rail passenger revenue, the SRTP financial model adjusts both the ridership and net average fare to account for fare increases and associated erosion of demand (refer to Chapter 3, page 3-3). A *timing adjustment* is also made to account for fare increases which are implemented for part of a fiscal year. Finally, other adjustments are made to reflect anticipated revenue yields for various fare instruments, such as for the BART/MUNI FastPass, as identified in Figure 4-3 and discussed below.

Based on the methodology described above, rail passenger revenue is projected to increase from a base of $123.36 million budgeted for FY 96 to $221.31 million in FY 05. This reflects growth in ridership, higher average fares due to longer trips with extensions, and higher fares due to application of the January 1995 adopted fare package. This revenue forecast also reflects the additional revenue anticipated as a result of renegotiation of the revenue-sharing agreement with MUNI for FastPass travel on BART within San Francisco. As identified in Figure 4-3, the revenue associated with the new agreement amounts to an additional $0.70 million in FY 97 and an additional $1.60 million in all remaining years, and has been included in BART's net rail revenue forecast.

San Mateo County Surcharge Revenue

BART's baseline forecast for surcharge revenue to be returned to SamTrans starts out at $1.34 million in FY 96, and increases per fare increases and growth in Peninsula extension ridership to $10.07 million in FY 05. San Mateo County surcharge revenue is subtracted from net rail revenue, discussed in the preceding section, and is not included in the *Total Net Passenger Revenue* line-item shown in Figure 4-2.

This forecast is based on the cost-sharing agreement currently in effect between the District and SamTrans for BART rail service. Per this agreement, all San Mateo County surcharge revenue collected at stations south of Daly City are to be returned to SamTrans. As identified in Figure 1-6, this surcharge is currently 60¢ per West Bay trip for travel beginning or ending in San Mateo County. It is assumed that this surcharge will increase in proportion to general increases in BART fares. Note that the current cost-sharing agreement specifies that no San Mateo County station use surcharge be imposed at the San Francisco Airport Station. The above forecast includes this consideration.

Express Bus Passenger Revenue

Passenger revenue from express bus service was forecast using a similar methodology as for rail. An average express bus fare, which is also assumed to increase in accordance with the adopted fare package rates, is applied to the forecast ridership for this service.

ADA Paratransit Passenger Revenue

ADA passenger revenue is per current and anticipated cost-sharing agreements BART has with other Bay Area transit operators. These revenue estimates cover the period from FY 96 through FY 98, the latter of which is the first full year of ADA compliance. After FY 98, ADA passenger revenue assumes that ridership for this service will grow 1.25% per year and that the average ADA fare will grow per general BART rail fare increases. On this basis, BART's baseline ADA passenger revenue forecast calls for $0.48 million in FY 97, and ramping up to $1.25 million in FY 98 reflecting a full year of compliance service. Per the conservative growth assumptions noted above, ADA passenger revenue is forecast to grow to $1.26 million in FY 05. Note that during this period, FY 98 to FY 05, BART's baseline forecast includes no fare increases.

Total Net Passenger Revenue

BART's total net passenger revenue, consisting of the revenue from the above sources, is forecast to grow from $150.50 million in FY 97 to $213.36 million in FY 05.

Operating Revenue From Sources Other Than Fares

Non-passenger fare revenue consists of funds generated through concessions, advertising, fines and forfeitures, joint development, interest earnings, and miscellaneous other sources. The total amount of this revenue is forecast to grow 4.8% annually from $4.38 million in FY 97 to $6.38 million in FY 05. Much of this growth is due to additional joint development revenue which is anticipated to be generated by new projects coming online. As identified in Figure 4-3, additional joint development revenue is forecast to be $0.25 million in FY 97, and grow to $0.95 million by FY 00. Revenue from interest earnings is assumed to be $7.80 million per year throughout the ten year planning period.

Total Operating Revenue

Based on forecasts for line items under passenger and non-passenger revenue discussed above, BART's baseline revenue forecast is slated to grow from $162.67 million in FY 97 to $227.55 million in FY 05. Note that this includes the impact of the January 1995 adopted fare increase package and no other raise in fares.

Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model was calibrated to the FY 96 adopted budget, with adjustments made to reflect deficit reduction measures, non-linear expense items, and anticipated revisions to unit costs. These adjustments are identified in Figure 4-3 and are discussed in sections below.

Inputs to the Cost Model reflect the service levels for both rail and express bus as discussed in Chapter 3. Non-modeled expense, such as for ADA, was added to the model forecast. Key inputs to the Cost Model include:

- Annual passenger trips
- Number of routes and route miles of track
- Number and configuration of stations (subway, at-grade, etc.)
- Peak online trains and cars
- Number of cars in the fleet
- Annual car miles
- Train hours and express bus hours

Additionally, the model input also includes assumptions for the consumer price index (CPI). Other than for current contracts, this SRTP assumes CPI is 3.0% for FY 96 and 3.5% in all other years. Deviations from this CPI assumption are noted below.

Staffing and Labor Expense

Labor expense growth reflects the increase in staff which is needed for expanded system operations with extensions. Staffing is a direct output of the Cost Model, and is forecast to increase from 2,835 FTEs in FY 97 to 3,204 FTEs in FY 05. Of this total in FY 05, it is forecast that 2,515 FTEs are required for the core system and 688 positions for extensions. The largest year-to-year increases occur when new extensions service is slated to begin.

The forecast for labor expense is based on growth in wages and benefits per current labor contracts (i.e., 2.4% for wage growth through FY 97), and CPI in all years thereafter. Labor expense adjustments are identified in Figure 4-3. These include credits for labor due to Colma Yard construction, pay progression and other labor contract savings, reduction in management positions, and vacancy rate adjustments. With the adjustments shown in Figure 4-3, labor expense is forecast to grow from $189.07 million in FY 97 to $283.88 million in FY 05.

Express Bus Service Expense

Expense for express bus service is based on the rates anticipated to be included in the new Laidlaw contract, due to be executed in January 1996, and the service modifications discussed in Chapter 3. Growth in unit expense for express bus service is assumed to be equal to CPI beyond the upcoming contract.

With the start of rail service to East Dublin/Pleasanton and Pittsburg/Bay Point stations in early FY 97, it is anticipated that portions of express bus routes which run parallel to these extensions will be discontinued. Accordingly, express bus service expense in FY 97 is forecast to be 34.3% less than FY 96 ($4.56 million in FY 97 versus $6.93 million budget in FY 96). By FY 05, express bus expense is forecast to be $6.00 million.

ADA Paratransit Service Expense

Expense for ADA service assumes the current and anticipated cost-sharing agreements through FY 98 and CPI thereafter. On this basis, ADA expense is forecast to grow from $5.37 million in FY 97, a transition year, to $8.75 million in FY 98 under full compliance. At CPI, this expense is forecast to grow to $11.13 million in FY 05.

Other Bus Expense

BART's expense for shuttle bus service includes payments to the Port of Oakland in support of *Oakland Air-BART*, temporary shuttles as need for *bus-bridges* due to cessation of rail service, and other temporary shuttles such as to the Alameda County Fairgrounds. This expense is forecast to grow at CPI from the FY 96 budget amount of $0.09 million to $0.13 million in FY 05.

The expense of providing discounts for transfers to and from MUNI is forecast to grow from $1.71 million in FY 97 to $2.25 million in FY 05. This forecast also includes the expense of providing free transfers to MUNI customers at Daly City Station, to offset their higher fare due to the San Mateo County surcharge.

Traction and Station Power Expense

Power expense is a model output, and is forecast largely on the basis of car miles. The basic unit of power expense is assumed to grow at CPI. Adjustments to power expense, as identified in Figure 4-3, reduce this power cost per anticipated rate decreases and lighting efficiency measures to be implemented at the following four core system locations: Hayward Yard, Lake Merritt Administration Building, Lake Merritt Station, and Embarcadero Station. As noted on page 4-4 in the discussion of the FY 96 adopted budget, these power adjustments do not include

anticipated legislation which would provide for savings as the result of purchases of preference power from federal marketing agencies.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities, and other miscellaneous expense are forecast to increase from a forecast of $40.96 million in FY 97 to $60.09 million in FY 05.

Public Employee Retirement System (PERS) Expense

As a result favorable balances BART has not had to make payments to PERS since FY 89. However, BART does anticipate that it will be required to resume PERS payments beginning in FY 98. The amount in that fiscal year is forecast to be $14.50 million, and is assumed to grow 4.0% annually to $18.45 million in FY 05.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $266.94 million in FY 97, which will grow by the combination of system expansion and CPI to $420.89 million in FY 05.

Sales Tax Financial Assistance

Sales tax revenue is currently the single largest source of operating funds in the District's operating budget. Assumed in the SRTP forecast for sales tax is that San Mateo County remains a *non-District member*, and is anticipated to compensate BART in accordance per cost-sharing agreements. As a result, BART's three-county sales tax base is not expected to change throughout the ten year planning period; a period in which BART's financial requirements will grow as the system expands. These conditions will place a greater emphasis on other sources of funds to make up, what historically has been, sales tax revenue's proportion of BART's operating budget. It is, therefore, prudent to take a somewhat conservative approach to sales tax revenue, in light of this source's importance in District fiscal matters.

Accordingly, BART's baseline financial forecast assumes annual sales tax revenue growth equal to 0.25% above CPI, or 3.75%. As discussed in Chapter 2, this compares to 1% annual population growth and a 2% yearly increase in employment. *[BART's forecast of sales tax revenue is substantially lower than MTC's projection which is discussed below.]*

Based on 3.75% annual growth, sales tax revenue is forecast to be $122.92 million in FY 97, growing to $165.02 million in FY 05.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 5.0% annually throughout the ten year period. As seen in Figure 4-2, note that FY 97's property tax amount is equal to the FY 96 budget. This no-growth forecast reflects property tax collection issues in San Francisco which are being addressed by the City.

Financial assistance from property taxes is forecast to be $13.53 million in FY 97, growing to $19.99 million in FY 05.

ADA Paratransit Financial Assistance

Financial assistance for BART-funded ADA paratransit service is per current and planned cost-sharing agreements with other Bay Area transit operators through FY 98, and consists largely of STA and TDA. *[Amounts identified for TDA in Figure 4-2 are for non-ADA uses. All ADA assistance, including TDA, are shown on the 'ADA Assistance' line item.]* After FY 98, ADA assistance is assumed to grow conservatively at 1.0% annually. BART's ADA financial assistance forecast starts out at $1.58 million in FY 97 and grows to $1.61 million in FY 05.

San Mateo County Financial Assistance

Financial assistance is assumed to come from San Mateo County to offset the expense of providing BART rail service to this non-District county. The amounts shown in Figure 4-2 for FY 96 through FY 04 are the same figures developed for BART's 1994 SRTP. This includes receipt of $1.86 million in FY 97 and growing to $4.49 million in FY 04. San Mateo County financial assistance is assumed to be $5.00 million in FY 05.

Cost Allocation Plan Reimbursement

As discussed on page 4-5, the District implemented a *Cost Allocation Plan* in July 1994 which allows transfers of capital funds to operations to offset the operating expense of administering its capital program. The amounts identified for this budget line item offset the debits of equal amounts shown in *Debt Service and Allocations*, below. It is assumed that *Cost Allocation Plan* reimbursement grows by CPI from the FY 96 adopted budget base of $2.25 million. By FY 05, this reimbursement is forecast to be $3.06 million.

Total Financial Assistance

Total financial assistance from the above sources, including the *Cost Allocation Plan* reimbursement, is forecast to grow from $142.69 million in FY 97 to $195.12 million in FY 05.

Debt Service and Allocations

Debt service forecasts are based on current and anticipated payment schedules for issues of bonds. Included are the existing 1990 and 1991 C-car revenue bonds, the debt service for which grows from $19.95 million in FY 97 to $20.89 million in FY 05. Other debt service is for the four issues of bonds, the proceeds of which are mainly for system rehabilitation. The first series of these bonds was issued in May 1995. The second series of bonds is slated to be issued in FY 98, with the third and fourth series to follow in FY 99 and FY 00, respectively. The total debt service for these four issues is shown in Figure 4-2 on the *New Bond Debt Service* line item, which grows from $9.99 million in FY 97 to $39.67 million in FY 05.

Allocations to capital consist of transfer of capital funds to the operating budget for the *Cost Allocation Plan*, as discussed above. No other allocations are assumed for the ten year planning period.

Based on the above, BART's total debt service and allocations is forecast to be $32.27 million in FY 97, increasing to $63.63 million in FY 05.

Financial Result

The financial result for BART's baseline forecast is identified in Figure 4-2 and is charted in Figure 4-4. This forecast includes all of the sources identified above for revenue, expense, financial assistance, debt service, and other allocations. As seen in Figure 4-4, the first cumulative deficit appears in FY 99, at $12.83 million. With no fare increases beyond FY 97 and no expansion of the District's sales tax base, the financial requirements of extensions, ADA, and system rehabilitation outpace growth for sources of operating funds. This condition is forecast to continue through the current planning period, as evidenced by mounting annual deficits. By FY 05, BART's cumulative baseline forecast deficit is projected to be $294.43 million. This cumulative deficit results after taking credit for the deficit reduction measures identified in Figure 4-3; which consist of programs to raise additional revenue through sources other than passenger fares, as well as other actions to reduce expense.

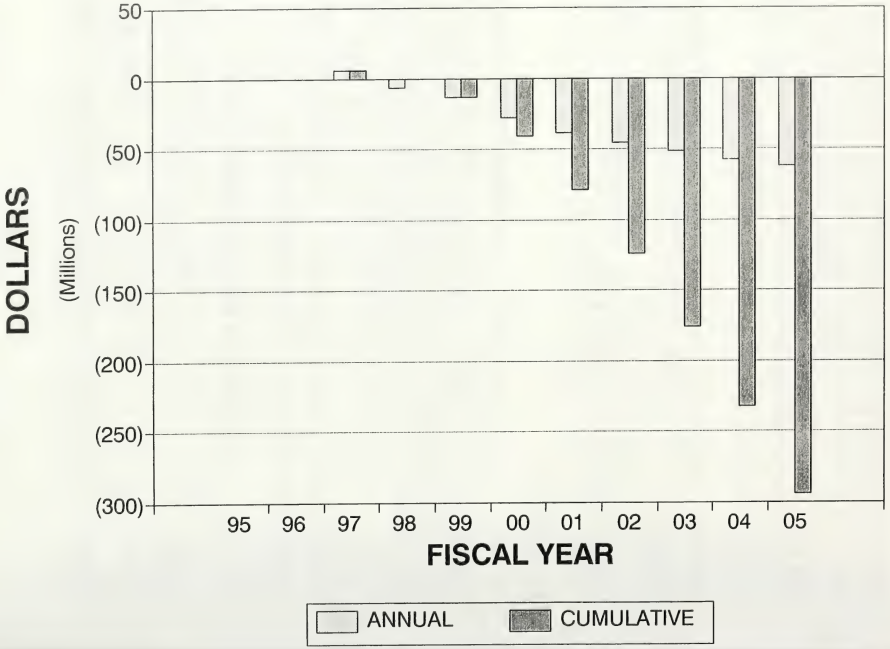
SCENARIOS TO BALANCE BASELINE DEFICITS

Two scenarios are presented below which address the cumulative $294.43 million baseline deficit forecast for the ten year period. These scenarios consist of fare increases required for balancing the operating budget under two forecasts of sales tax. The first consists of the same forecast included in the baseline projections, which assumes 3.75% annual growth in sales tax revenue (i.e., 3.50% CPI plus 0.25%). The second scenario addresses MTC's requirement which stipulates that SRTPs include this agency's sales tax forecast. Compared to BART's projection, MTC assumes a more aggressive 7.0% annual growth rate for BART sales tax revenue. MTC's

Figure 4 - 4

BASELINE FORECAST FINANCIAL DEFICITS

At Adopted Fares and BART's Forecast of Sales Tax



sales tax forecast starts out at $119.85 million for FY 96, 1.2% above BART's budget of $118.48 million. By FY 05, MTC's forecast is 25.1% higher than BART's, with the disparity in that year alone amounting to $41.37 million.

Scenario 1: With BART's Forecast of Sales Tax, Adopted Fares & Other Increases

Under the assumptions presented above for BART's baseline financial forecast, the District's long-term challenge may be characterized by the disparity between the growth in the agency's two principle sources of income, both of which are of similar orders of magnitude and cover approximately 90% of all expense. These revenue sources are passenger fares and sales tax.

A key baseline forecast assumption is that expense will rise by 3.5% CPI. For balance, passenger fares and sales tax revenue must also increase by similar amounts. Sales tax is assumed to grow at a rate equal to 0.25% plus CPI, or 3.75%. For a balanced budget and to make up the difference, fare revenue would have to grow by at least 3.25% annually (i.e., 3.5% CPI less 0.25%). The baseline assumptions, however, include a long-term ridership and fare revenue growth rate of 1.25%, assuming no fare increases. It is precisely this 2% disparity, the difference between a 1.25% growth rate in fare revenue versus a 3.25% rate actually needed for balance, which must be made up by fares.

This characterization is verified by solving for the fare increases which would be required after FY 98, beyond the scope of the adopted fare increase package. Fare increases needed to balance the baseline forecast deficits, from FY 99 through FY 05, are shown in the table below. The financial statement for Scenario 1 is summarized in Figure 4-5, and the financial result charted in Figure 4-6:

FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
8.5%	7.3%	4.0%	2.5%	2.0%	2.0%	1.3%

Note that after FY 01, the first full year when all of the extensions in this SRTP are assumed to be in operation, the fare increases required to balance BART's operating budget average approximately 2%, as postulated above. These additional budget-balancing fare increases are forecast to result in minor erosion of ridership relative to the baseline forecast. Service and expense for this scenario, therefore, are assumed to be at the same level as for the baseline forecast. By FY 05, ridership under this scenario is forecast to be 103.20 million annual trips. This is 1.3% lower than the baseline ridership forecast of 104.61 million trips for FY 05.

Figure 4 - 5

FINANCIAL SCENARIO 1: WITH BART's FORECAST OF SALES TAX

At Adopted Fares & Additional Budget-Balancing Fare Increases

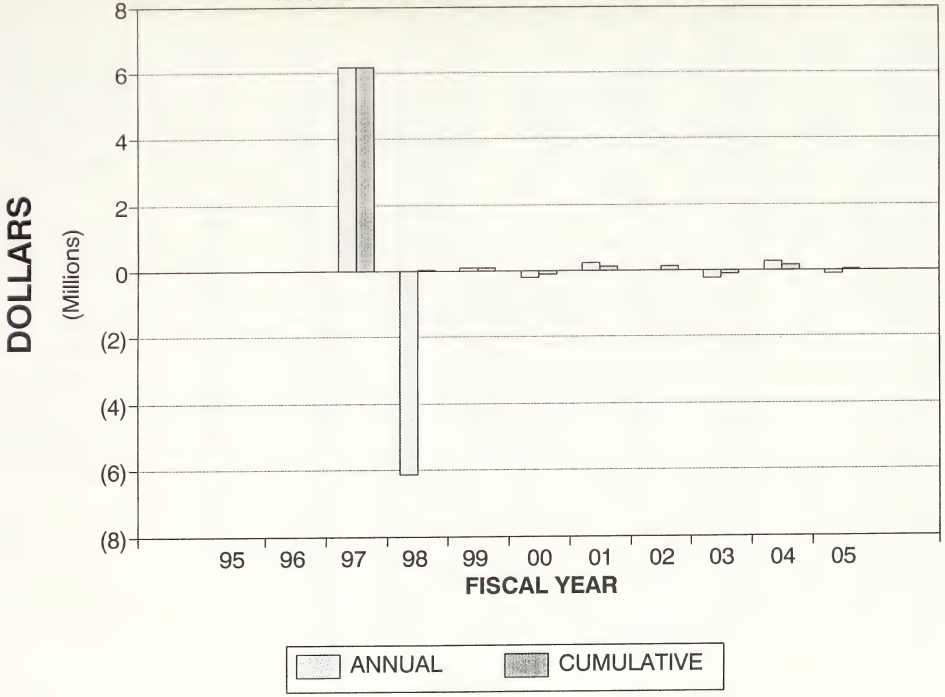
All Figures in Thousands of Dollars

	FY 96 BUDGET	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
REVENUE										
Net Rail Passenger Revenue	123,357	152,648	167,715	184,606	218,964	246,224	256,931	266,789	277,016	285,324
San Mateo Co. Surcharge Revenue	(1,337)	(3,405)	(3,773)	(4,163)	(7,875)	(11,782)	(12,140)	(12,448)	(12,763)	(13,001)
Net Express Bus Passenger Revenue	1,214	771	835	903	968	1,012	1,042	1,068	1,095	1,114
ADA Service Passenger Revenue	120	483	1,254	1,351	1,444	1,503	1,542	1,575	1,608	1,630
Total Net Passenger Revenue	123,354	150,498	166,030	182,697	213,500	236,956	247,375	256,984	266,957	275,068
Interest Revenue	7,190	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800
Other Operating Revenue	3,987	4,376	4,921	5,270	5,525	5,685	5,851	6,022	6,200	6,384
Subtotal Non-Fare Revenue	11,177	12,176	12,721	13,070	13,325	13,485	13,651	13,822	14,000	14,184
Total Operating Revenue	**134,531**	**162,674**	**178,751**	**195,767**	**226,825**	**250,441**	**261,026**	**270,807**	**280,956**	**289,252**
EXPENSE										
Net Labor	168,483	189,067	193,504	200,099	216,589	237,622	249,904	261,604	272,924	283,884
Express Bus Service	6,934	4,558	4,718	4,883	5,054	5,230	5,411	5,604	5,800	6,000
Shuttle Service	95	99	102	106	109	113	117	121	126	130
Purchased Transportation	1,654	1,712	1,772	1,834	1,898	1,965	2,033	2,105	2,179	2,254
ADA Service	2,521	5,369	8,749	9,055	9,372	9,700	10,039	10,391	10,755	11,131
Power, Traction & Station	21,864	25,174	26,074	27,094	29,811	32,986	34,406	35,706	37,459	38,958
Other Non-Labor	38,561	40,964	42,432	44,176	47,948	51,501	53,556	55,557	57,816	60,088
PERS	0	0	14,500	15,008	15,533	16,076	16,639	17,221	17,824	18,448
Total Operating Expense	**240,112**	**266,942**	**291,852**	**302,255**	**326,315**	**355,194**	**372,105**	**388,309**	**404,882**	**420,891**
OPERATING DEFICIT	**(105,581)**	**(104,268)**	**(113,101)**	**(106,488)**	**(99,490)**	**(104,752)**	**(111,079)**	**(117,503)**	**(123,926)**	**(131,640)**
FINANCIAL ASSISTANCE										
Sales Tax (BART 75%)	118,481	122,924	127,534	132,316	137,278	142,426	147,767	153,308	159,057	165,022
Property Tax	13,529	13,529	14,205	14,915	15,661	16,444	17,266	18,130	19,036	19,988
ADA Assistance	702	1,577	1,502	1,517	1,532	1,547	1,563	1,578	1,594	1,610
TDA State Assistance	595	470	448	417	377	324	353	385	420	471
San Mateo County	1,113	1,860	2,110	3,240	4,380	4,280	4,290	4,160	4,490	5,000
Cost Allocation Plan Reimbursement	2,248	2,327	2,408	2,493	2,580	2,670	2,764	2,860	2,961	3,064
Total Financial Assistance	**136,668**	**142,686**	**148,207**	**154,898**	**161,808**	**167,692**	**174,003**	**180,422**	**187,558**	**195,155**
DEBT SERVICE & ALLOCATIONS										
C-Car Revenue Bond Debt Service	(19,819)	(19,949)	(20,075)	(20,179)	(20,269)	(20,379)	(20,490)	(20,611)	(20,741)	(20,891)
New Bond Debt Service	(9,020)	(9,994)	(18,744)	(25,653)	(39,674)	(39,671)	(39,673)	(39,672)	(39,674)	(39,672)
Other Capital Allocations	(2,248)	(2,327)	(2,408)	(2,493)	(2,580)	(2,670)	(2,764)	(2,860)	(2,961)	(3,064)
Miscellaneous Other	0	0	0	0	0	0	0	0	0	0
Total Debt Service & Allocations	**(31,087)**	**(32,270)**	**(41,228)**	**(48,325)**	**(62,523)**	**(62,720)**	**(62,926)**	**(63,144)**	**(63,376)**	**(63,628)**
ANNUAL FINANCIAL RESULT	**0**	**6,149**	**(6,122)**	**85**	**(204)**	**219**	**(2)**	**(225)**	**257**	**(112)**
CUMULATIVE BALANCE	**(0)**	**6,149**	**27**	**112**	**(92)**	**127**	**125**	**(100)**	**157**	**45**

Figure 4 - 6

SCENARIO 1 FINANCIAL RESULTS

With BART's Forecast of Sales Tax



The impact of the budget-balancing fare increases results in gains for key financial ratios. The rail farebox ratio is forecast to increase from 53.9% in FY 96 to 71.1% in FY 05, versus 55.1% for the baseline forecast. The system operating ratio is forecast to rise from 56.0% in FY 96 to 68.7% in FY 05, compared to 54.1% for the baseline forecast. The gains for these financial ratios reflect the higher contribution of fares, relative to sales tax revenue, for covering increasing operating expense due to extensions, ADA, and system rehabilitation.

Scenario 2: With MTC's Forecast of Sales Tax, BART Adopted Fares & Other Increases

MTC's higher forecast of sales tax revenue, which assumes 7.0% annual growth or twice CPI, reduces the level of fare increases needed to balance BART's operating budget. These budget-balancing fare increases are summarized in the table below. The full financial statement for this scenario is presented in Figure 4-7, and annual financial results charted in Figure 4-8.

FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
3.1%	3.1%	3.1%	0.0%	0.0%	0.0%	0.0%

Because the three consecutive fare increases are below the assumed growth in CPI of 3.5%, no erosion of ridership is forecast to occur. Annual trips, therefore, are projected to be equal to the baseline ridership forecast of 104.61 million for FY 05.

The impact of the above increases is less dependent upon passenger fares than under Scenario 1. Accordingly, this scenario is forecast to result in achievement of lower financial ratios than for Scenario 1. The rail farebox ratio for Scenario 2 is forecast to increase from 53.9% in FY 96 to 60.4% in FY 05. This compares to a FY 05 farebox ratio for the baseline forecast of 55.1% and 71.1% for Scenario 1.

The system operating ratio for Scenario 2 is forecast to grow from 56.0% in FY 96 to 58.9% in FY 05. This compares to 54.1% for the baseline forecast and 68.7% for Scenario 1.

Figure 4 - 7

FINANCIAL SCENARIO 2: WITH MTC's FORECAST OF SALES TAX

At Adopted Fares & Additional Budget-Balancing Fare Increases

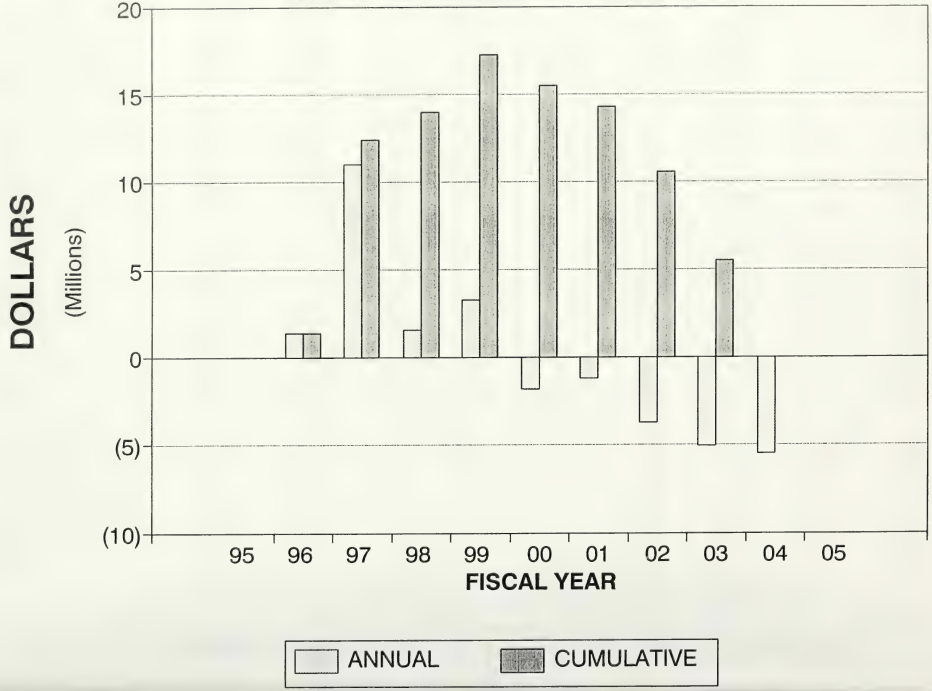
All Figures in Thousands of Dollars

	FY 96 BUDGET	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
REVENUE										
Net Rail Passenger Revenue	123,357	152,648	167,715	176,815	202,665	226,035	230,111	234,255	238,466	242,586
San Mateo Co. Surcharge Revenue	(1,337)	(3,405)	(3,773)	(3,959)	(7,324)	(10,896)	(10,953)	(11,010)	(11,068)	(11,126)
Net Express Bus Passenger Revenue	1,214	771	835	865	896	929	933	938	943	947
ADA Service Passenger Revenue	120	483	1,254	1,294	1,336	1,379	1,381	1,383	1,385	1,386
Total Net Passenger Revenue	123,354	150,498	166,030	175,016	197,574	217,447	221,473	225,566	229,726	233,794
Interest Revenue	7,190	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800
Other Operating Revenue	3,987	4,376	4,921	5,270	5,525	5,685	5,851	6,022	6,200	6,384
Subtotal Non-Fare Revenue	11,177	12,176	12,721	13,070	13,325	13,485	13,651	13,822	14,000	14,184
Total Operating Revenue	**134,531**	**162,674**	**178,751**	**188,086**	**210,899**	**230,932**	**235,124**	**239,388**	**243,726**	**247,978**
EXPENSE										
Net Labor	168,483	189,067	193,504	200,099	216,589	237,622	249,904	261,604	272,924	283,884
Express Bus Service	6,934	4,558	4,718	4,883	5,054	5,230	5,411	5,604	5,800	6,000
Shuttle Service	95	99	102	106	109	113	117	121	126	130
Purchased Transportation	1,654	1,712	1,772	1,834	1,898	1,965	2,033	2,105	2,179	2,254
ADA Service	2,521	5,369	8,749	9,055	9,372	9,700	10,039	10,391	10,755	11,131
Power, Traction & Station	21,864	25,174	26,074	27,094	29,811	32,986	34,406	35,706	37,459	38,958
Other Non-Labor	38,561	40,964	42,432	44,176	47,948	51,501	53,556	55,557	57,816	60,088
PERS	0	0	14,500	15,008	15,533	16,076	16,639	17,221	17,824	18,448
Total Operating Expense	**240,112**	**266,942**	**291,852**	**302,255**	**326,315**	**355,194**	**372,105**	**388,309**	**404,882**	**420,891**
OPERATING DEFICIT	**(105,581)**	**(104,268)**	**(113,101)**	**(114,169)**	**(115,416)**	**(124,261)**	**(136,981)**	**(148,921)**	**(161,156)**	**(172,913)**
FINANCIAL ASSISTANCE										
Sales Tax (BART 75%)	119,850	127,767	135,264	143,204	151,612	160,518	169,949	179,939	190,519	206,388
Property Tax	13,529	13,529	14,205	14,915	15,661	16,444	17,266	18,130	19,036	19,988
ADA Assistance	702	1,577	1,502	1,517	1,532	1,547	1,563	1,578	1,594	1,610
TDA State Assistance	595	470	448	417	377	324	353	385	420	471
San Mateo County	1,113	1,860	2,110	3,240	4,380	4,280	4,290	4,160	4,490	5,000
Cost Allocation Plan Reimbursement	2,248	2,327	2,408	2,493	2,580	2,670	2,764	2,860	2,961	3,064
Total Financial Assistance	**138,037**	**147,529**	**155,937**	**165,786**	**176,142**	**185,784**	**196,185**	**207,053**	**219,020**	**236,521**
DEBT SERVICE & ALLOCATIONS										
C-Car Revenue Bond Debt Service	(19,819)	(19,949)	(20,075)	(20,179)	(20,269)	(20,379)	(20,490)	(20,611)	(20,741)	(20,891)
New Bond Debt Service	(9,020)	(9,994)	(18,744)	(25,653)	(39,674)	(39,671)	(39,673)	(39,672)	(39,674)	(39,672)
Other Capital Allocations	(2,248)	(2,327)	(2,408)	(2,493)	(2,580)	(2,670)	(2,764)	(2,860)	(2,961)	(3,064)
Miscellaneous Other	0	0	0	0	0	0	0	0	0	0
Total Debt Service & Allocations	**(31,087)**	**(32,270)**	**(41,228)**	**(48,325)**	**(62,523)**	**(62,720)**	**(62,926)**	**(63,144)**	**(63,376)**	**(63,628)**
ANNUAL FINANCIAL RESULT	**1,369**	**10,992**	**1,609**	**3,292**	**(1,797)**	**(1,198)**	**(3,722)**	**(5,012)**	**(5,512)**	**(20)**
CUMULATIVE BALANCE	**1,369**	**12,361**	**13,969**	**17,261**	**15,464**	**14,267**	**10,544**	**5,532**	**20**	**0**

Figure 4 - 8

SCENARIO 2 FINANCIAL RESULTS

With MTC's Forecast of Sales Tax



CONCLUDING REMARKS

As identified in this SRTP, BART's future includes operational and fiscal challenges. From an operations perspective, the system will soon be subject to a level of expansion unseen in its history since service started in September 1972. The challenge of providing uninterrupted high-quality service through this transition period is a formidable one. Activities in recent years have focused on this critical period. The results of these efforts will greatly assist BART in making the period of service expansion a smooth transition. From a fiscal perspective, as stated earlier in this chapter, a key long-term challenge will be for BART to address the disparity between the growth rates for passenger and sales tax revenue versus that for expense.

As presented in this SRTP, this disparity is equal to approximately 2% per year, and includes an offset due to growth in sales tax revenue at 0.25% above CPI. This disparity reflects annual revenue growth of 1.25% versus a forecast need of 3.25% growth. The additional expense for operating extensions, meeting ADA paratransit service requirements, and providing bond debt service for system rehabilitation places additional emphasis on evaluating programs and formulating new methods for reducing expense further and enhancing revenue from sources other than passenger fares.

Other efforts will need to focus on ensuring that BART's financial base keeps pace with the levels of service the District provides. Accordingly, BART will be challenged to find new sources of financial assistance, including how the current three-county BART sales tax base might be expanded to include other Bay Area counties which benefit from BART service.

This SRTP identified BART's baseline deficits and has illustrated how these deficits may be covered through modest fare increases. The importance of needing to expand the District's sales tax base, commensurate with service expansion, is illustrated by the higher sales tax scenario included in this SRTP. Under a higher sales tax revenue forecast, the fare increases needed to eliminate the deficits are substantially reduced.

In summary, the service plans and underlying financial forecasts presented in this SRTP identify the District's desired course of action. Services and programs identified in the District's FY 96 budget have, by the nature of their near-term timing, a higher probability of being implemented as planned than for other projects further out in time. Accordingly, the out-year forecasts represent desired *targets* which the District will continually update and refine. This will be reflected in BART's future Short Range Transit Plans.

APPENDIX

PUBLIC REVIEW

&

COMMENTS

On July 27, 1995, the BART Board of Directors authorized release of the Draft 1995 Short Range Transit Plan and Capital Improvement Program for public review, and established August 10, 1995 as the date for a public meeting to receive comments on these two documents.

A total of 256 copies of the draft plans were mailed to Bay Area public agencies, private firms, and individuals requesting to be on the SRTP and CIP distribution lists.

A press release was issued on July 27, 1995 notifying the public of the availability of the Draft 1995 SRTP and CIP, and identified a source at BART headquarters for obtaining the documents. The press release also identified libraries throughout the three-county District and in San Mateo and Santa Clara counties where copies of the documents would be available for review.

Copies of the written comments received as part of this public review process are provided in this section. Mr. Robert S. Allen of Livermore was the only person to address the Board at the August 10, 1995 public meeting. In addition to his correspondence (attached), Mr. Allen urged the Board to consider a project which would provide for a *tailtrack* immediately south of Fremont Station.

The District has incorporated many of the comments received as part of the public review process into the preparation of the final 1995 SRTP and CIP. Any comments not specifically addressed in the 1995 documents will be considered in the planning process as part of the 1996 update. The District has provided followup written responses to each agency/person acknowledging receipt of their comments.

CITY OF DUBLIN

P.O. Box 2340, Dublin, California 94568 • City Offices, 100 Civic Plaza, Dublin, California 94568

August 9, 1995

Martin Birkenthal
Sr. Financial Analyst
Bay Area Rapid Transit
P.O. Box 12688
Oakland CA 94604-2688

SUBJECT: 1995 Draft BART/Short Range Transit Plan and Capital Improvement Program

Dear Mr. Birkenthal:

The following are the City of Dublin's comments on the above referenced document:

1) As part of the BART Extension to Dublin/Pleasanton EIR, a third station (West Dublin/ Pleasanton Station) is recommended to be constructed to relieve traffic congestion on local streets for Dublin and Pleasanton. Dublin Boulevard by itself does not have adequate capacity to handle traffic from the East Dublin BART Station; therefore, the West Dublin/Pleasanton BART Station is necessary.

2) To help BART finance the station, Tri-Valley area jurisdictions, including the City of Dublin, are conducting a study to find funding sources. At this time, one of the sources being considered is a developer traffic impact fee. However, the BART plan should identify the source of funding for this station.

3) Based on the EIR document, the parking lots for the East Dublin BART station will not have adequate parking space capacity for the future. In your plan, please identify the source of funding for the East Dublin BART station expansion.

4) The City of Dublin and the Livermore-Amador Valley Transit Authority believe that a transit corridor to connect Dublin Blvd. to BART along the Southern Pacific right-of-way should also be constructed. This is not presently shown on plans for the East Dublin/Pleasanton Station.

5) With the projected growth in San Joaquin County and Altamont Pass, and present worsening congestion on the Altamont Pass due to developments in the area, it is believed that BART should have bus service to the San Joaquin area.

Addressing and providing improvements based on the above expressed comments and concerns is to our mutual desire for the success of the Dublin-Pleasanton Extension Line, both

as an alternative to driving alone and as a route which collects its fair share through the fare box. We believe BART should include in this plan the necessary Capital Improvement costs for the stated projects.

We appreciate the opportunity to comment on the Draft Plan and your continued cooperation in providing transit service to the Tri-Valley area.

Sincerely,

Lee S. Thompson
Public Works Director

LST/MS

cc: Dennis Fay, Alameda County CMA
Vic Sood, LAVTA Wheels
Richard C. Ambrose, City Manager
Mehran Sepehri, Sr. Civil Engineer

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A

WHEELS
THE WAY TO GET AROUND

August 9, 1995

Mr. Martin Birkenthal
Senior Financial Analyst
Bay Area Rapid Transit District
800 Madison Street
Oakland, CA 94607

Subject: 1995 Draft BART/SRTP and CIP

Dear Mr. Birkenthal:

We wish to thank you for soliciting our comments on the 1995 Draft BART Short Range Transit Plan (SRTP) and the Capital Improvement Program (CIP).

The comments of the Livermore/Amador Valley Transit Authority are as follows:

Capital Improvement Program (CIP)

1. The CIP makes no mention relating to BART extension from the East Dublin/Pleasanton Station to Livermore. The Altamont Pass has become one of the major gateways to the Bay Area. It is imperative that BART in this SRTP and CIP start preliminary engineering and environmental studies for this extension to Livermore, and also include an estimate of capital costs and a time line for the completion of this extension. The present and future estimates of vehicle traffic (ADT) over the Pass fully justifies this extension.

2. **BART West Dublin/Pleasanton Station**

   BART has supported this station and should seek all sources of funds to build this station. This station has the support of the cities of Dublin and Pleasanton. The estimated costs of $30-32 million for this station should be included in the CIP.

Livermore Amador Valley Transit Authority
1362 Rutan Court, Suite 100, Livermore, CA 94550 • 510.455.7555 FAX 510.443.1375

3. **BART Bus Service**

LAVTA is currently updating its SRTP for the period 1995-2005 due to be completed in September 1995. BART staff has told LAVTA staff that BART Express "U" Line would be terminated when rail service commences to the East Dublin/Pleasanton Station sometime in the summer of 1996. Also, the BART "UL" Express route would only service between the East Dublin/Pleasanton Station and Livermore on its current route, and a new bus route from this station to LLNL in Livermore via Springtown in Livermore will be implemented. This should be reflected in the SRTP. BART should also consider contracting for LAVTA to provide these two bus lines from a cost effective perspective.

If you need any more information relating to our comments, please feel free to call our General Manager, Vic sood, at 510-455-7555.

Very truly yours,

Councilmember Paul Moffatt
Chair, LAVTA Board of Directors

cc: Dennis Fay, Alameda County CMA
Mayor Ben Tarver, City of Pleasanton
Mayor Cathie Brown, City of Livermore
Mayor Guy Houston, City of Dublin

CITY OF PLEASANTON

August 2, 1995

OFFICE OF THE MAYOR
BEN C. TARVER

Mr. Martin Birkenthal
Senior Financial Analyst
BART
800 Madison Street
Oakland, CA 94607

Dear Mr. Birkenthal:

The following are comments on the "Draft BART Short Range Transit Plan" and the "Capital Improvement Program".

Capital Improvement Program 1995-2005

We appreciate BART's continued priority to implement the Dublin/Pleasanton extension with the East Dublin/Pleasanton station. BART was very supportive in seeking the necessary funds to implement the West Dublin/Pleasanton Station in our Alameda County CMA presentations to MTC. We also appreciate you keeping this station in "Priority one" for the "Track Two" capital improvement needs list.

Without the West Dublin/Pleasanton station, the BART service along the I-680 north corridor is ineffective as it requires potential riders to backtrack on I-580 out of direction or to continue all the way over the Dublin grade to Castro Valley which in all likelihood is over half of the trip.

While the West Dublin/Pleasanton Station is prominently mentioned in the Track 2 list, the reality is that nothing on this list is funded nor likely to be funded in the near future. We in tri-Valley are examining the possibility of Transportation development fees to help fund the station. The CIP lists the cost at $28 million. Recent escalations of this old figure place the cost at a $32 million level. Any development fees would take a substantial time to collect and could delay construction far into the future.

Expansion of East Dublin/Pleasanton Station Parking Lot

Given this fact and our mutual desire for the success of the DPX line both as an option to drive alone and as a route which collects its fare share through the fair box. We believe that BART must also include in the Capital Improvement Program the necessary capital improvement costs for expanding the East Dublin Pleasanton Parking lot. Alameda County has, through Supervisor

123 MAIN STREET • P.O. BOX 520 • PLEASANTON, CA 94566-0802 • (510) 484-8001 • FAX (510) 484-8236

Ed Campbell, promised a low or no cost lease to BART of County properties north of the existing East DPX parking site. The access roads will be built with the current East DPX parking contract so all that needs to be funded is any drainage, grading and paving plus stall markings. We strongly suggest that a minimum addition of 1000 stalls be developed as this will then meet the EIR stated needs for an East only station until such time as the West DPX station is constructed.

We also ask your support in reviewing the Resolution 1876 language which MTC is using as a tool to block the Tri-Valley and BART from taking advantage of any available funds to complete the DPX line with East and West Dublin/Pleasanotn Stations according to EIR needs and preferred alternative.

BART Bus Service

The BART trains are obviously the big dog which has to be fed; however, without a good bus feeder system, this "big dog" has no tail and is less effective. It is less effective in that if the trains run only part full the operating subsidy must be increased. The Short Range Plan mentions the BART proposal of high speed conventional rail which in the Altamont/I-580 corridor may some day be feasible. In the meantime there is no mention of other intercity feeder buses to the BART system. The recently approved Tri-Valley Transportation Plan proposes intercity bus routes to fill the current need.

It is unclear what BART will be doing with its current feeder operations or how they will be rearranged to better mesh with DPX trains and revamped Wheels service. The San Joaquin transit operations seem to be making inroads in the intercity commute however no mention is made by BART of any similar services to non San Joaquin locations. BART needs to change philosophy and think in doable short range terms of how they can provide public transportation and not be stuck in a single, all-trains, philosophy to provide service in outlying areas.

Long Range Revenue Projections

It is unclear what assumptions BART is making for future sales tax revenues. It appears that a fixed percentage is assumed above the inflation rate. It is our understanding that the Measure "B" Alameda County funding will expire in the year 2002. BART is obviously making some assumptions about ongoing share of possible revenue generation. It would be helpful to better understand what these assumptions are on a County to County basis.

A

We appreciate the opportunity to comment on the draft Plans. We appreciate your continued cooperation in providing transit services in the Tri-Valley and to Pleasanton.

Yours truly,

Ben Tarver

Ben Tarver
Mayor

cc: Vic Sood, Wheels
Dennis Fay, Alameda County CMA
City Manager
Pleasanton City Council

WP:BARTCIP.WVG.SM

223 Donner Avenue
Livermore, CA 94550-3040

August 9, 1995

Mr. Martin Birkenthal
Senior Financial Analyst
BART
800 Madison Street
Oakland, CA 94607

Dear Marty:

As a former BART Director, I am greatly impressed by the 1995 draft SRTP. You really did an outstanding job.

I hope that, in the future, you will base all the charts from zero. Charts 14, 17, and 25 didn't do this and thus are a bit misleading.

Re the SF Airport extension (cf third bullet on page 14) it makes much more sense to fork BART near the CalTrain San Bruno station. One line would go at grade in a joint at-grade trainway with CalTrain to Millbrae, and the other line would go under CalTrain and 101 into SF Airport.

A BART line at grade along the 131-year-old roadbed from Colma past I-380 and then in a joint at-grade trainway with CalTrain to Millbrae should cost under $140 million. Grade separating 10 grade crossings @ $8.2 million each would add another $82 million, for a total line cost of about $222 million. (See by July 20 letter to the BART Board.) A subway line into SFO from near the CalTrain San Bruno line would cost on the order of $349 million.

This fork makes much more sense than the proposal to cross 101 twice. My point is that the SFO extension would not be a single line to both the Airport and Millbrae, but a fork with one line to each.

Re bullets 5 and 6 on page 18, I would hope that the decision of which lines to run to Colma would be reviewed along the lines of my August 9 letter to Dick White, copy of which I have attached.

Re Bullets 3 and 4 on page 23, I would hope that something like the Daly City surcharge (originally created at my instigation) be applied to all stations in San Mateo County. The proceeds should go to pay for improved connecting bus service to the BART stations.

Great job!

Very truly yours,

Robert S. Allen
(510) 449-1387|p

223 Donner Avenue
Livermore, CA 94550

July 20, 1995

BART Board of Directors

Re: Cost of BART to SFO & Millbrae

A rough estimate of the cost for this two-leg extension:

1. BART at grade thru Millbrae Tail Track:

Basic Line at $18.5 Million/Mile

Trackway,	$1,000/route foot[1]	
Tracks (Two),	500/route foot	
Systems,	1,300/route foot	
Subtotal	$2,800/route foot	
25% contingency	700/route foot	
Total	$3,500/route foot	
x 5280 ft/mi = $18.48 Million/Mile		
x Approx. 7.5 miles		$140 Million

Grade Separations at $8.2 Million[2]:

BART only:
- Serramonte Blvd.
- Mission Road

BART + SP San Bruno Branch:
- Chestnut Ave.
- Orange Ave.
- Spruce Ave.
- Forest Lane

BART + CalTrain
- San Bruno Ave.
- San Mateo Ave. (Close instead?)
- Angus Ave.
- Center St.
- Hillcrest Ave (Pedestrian - Close?)
- Millbrae Ave.

Total, say 10 Xings @ $8.2 Million — 82 Million

Basic Line Cost thru Millbrae Tail Track — $222 Million

2. Internal Airport Subway Track:

Alternative V-A (Subway)	$1,152 Million	
Less Alt. V-B	803 Million	
Approximate Additional		349 Million
3. Right-of-Way		99 Million
4. BART Vehicles		105 Million
5. Stations, Say 2 plus internal airport		110 Million
6. Other (Engineering, Environmental, etc.)		200 Million
Approximate Total		$1,085 Million

[1] Less because old railroad grade?
[2] Median cost of 54 on CPUC priority list.

In the past I may have overstated the savings from keeping BART at grade. These figures are really hard to get and digest. But the savings are there and real.

Laying BART track at grade along an existing roadbed that once had a railroad main line should cost less than grading a new route, and certainly far less than putting the BART line underground.

As for grade separations:

- Overpasses need be only 13.5' above top of rail (ATR) for BART, v. 22.5' for railroads. This greatly reduces earthwork, etc.
- Underpasses need be designed only for BART wheel loadings, which are far less than those for freight cars and locomotives.
- There is no need to accommodate BART trains during construction.
- BART aerial or in subway along CalTrain would greatly increase the cost of grade separating CalTrain later (as would be needed for electrification or high speed rail).
- Building grade separations at the same time as BART construction should allow balancing cut and fill, as well as other economies.

Thus the cost could be far less than the statewide average for grade separating railroad grade crossings. The crossings could very well qualify for up to 80% grade separation funding under S&H Code Section 2452. SP, CalTrain, and local agencies would benefit and participate in the funding also.

Acquiring right-of-way by easement instead of in fee might reduce the environmental burden of property ownership and hazardous waste disposal. If BART only needed a surface "tunnel" easement, there would be less need to clean up sub-surface residues from a 131-year-old railroad subgrade.

The at-grade line to Millbrae could be built and operating before the subway gets into the internal airport station. During the interim, the ALRS serving CalTrain could also serve BART at a BART/CalTrain intermodal station. The only major structural work necessary would be stations, grade separations, and the ALRS. Thus BART could serve SFO sooner, while the internal airport station is being built.

BART district users would benefit more from enhanced transit connections than from park/ride. I would suggest having no parking at the intermodal station serving CalTrain and ALRS. Thus the San Francisco Garter Snake would suffer less of a threat.

Bob Allen

Robert S. Allen
(510) 449-1387

223 Donner Avenue
Livermore, CA 94550-3040

August 9, 1995

Mr. Richard A. White
General Manager, BART

Dear Dick:

Thanks for your July 25 letter, copy attached.

I realize that you are well along in your planning, and it may be too late to change your decision for the first CSX schedule. Even so I hope that you will make an effort along these lines:

Determine probable CSX patronage to/from these blocks of stations:

A. 12th Street through MacArthur;
B. Ashby through Richmond;
C. Rockridge through Concord (or North Concord);
D. Lake Merritt through Bayfair;
E. Hayward through Fremont;
F. Castro Valley through East Dublin.

Run the larger of A + B or A + C to Colma, the smaller just to Daly City.

Run the larger of D + E or D + F to Colma, the smaller just to Daly City.

Intuitively I suspect that the yellow (Concord) and green (Fremont) lines would be the ones to Colma, but I could be wrong.

Sequence the trains so that

Westbound: Daly City ABC train arrives Daly City just before the Colma DEF train, and the Daly City DEF train arrives Daly City just before the Colma ABC train.

Eastbound: Colma ABC train leaves Daly City just before the Daly City DEF train, and the Colma DEF train leaves Daly City just before the Daly City ABC train.

Running only half the trains through to Colma - the intermodal stop for buses to SFO and most other peninsula points - forces many BART passengers to make an extra transfer. The impact of that delay can be dramatically lessened by limiting the maximum delay to a single minimum-length headway.

To achieve the desired timing of the Daly City transfer and still keep trains evenly spaced through the tube and downtown SF, it might be well to have station run-throughs for Colma trains in the Mission corridor.

Very truly yours,

Bob Allen

Robert S. Allen
(510) 449-1387

cc: James T. Gallagher

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San Francisco Bay Area Rapid Transit District

SHORT RANGE TRANSIT PLAN

July 1996 Through June 2006
Fiscal Years 1997 - 2006

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BART

Adopted September 26, 1996

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

SHORT RANGE TRANSIT PLAN

FISCAL YEARS 1997 - 2006

The preparation of this report has been financed in part through a grant from the United States Department of Transportation, Federal Transit Administration under the Federal Transit Laws, 49 U.S.C. Chapter 53 and passed through the Metropolitan Transportation Commission. This report has been prepared in conformance with MTC guidelines for Short Range Transit Plans.

The contents of this report reflect the views of BART which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation, and does not preclude future labor contract negotiations or future BART Board deliberations regarding fares.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects.

This report was researched and prepared by:

Martin Birkenthal and Pamela Herhold

Financial Planning Division
Department of Operating Budgets & Analysis
San Francisco Bay Area Rapid Transit District

Adopted September 26, 1996

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

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San Francisco Bay Area Rapid Transit District
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800 Madison Street
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LIST OF ACRONYMS

AATC	Advanced Automatic Train Control (system)
ABAG	Association of Bay Area Governments
AC	Alameda-Contra Costa Transit District
ADA	Americans With Disabilities Act
AFC	Automatic Fare Collection (equipment)
BART	(San Francisco) Bay Area Rapid Transit District
CCCTA	Contra Costa County Transit Authority
CCJPB	Capitol Corridor Joint Powers Board
CDV	Credit/Debit Vendor
CIP	(BART) Capital Improvement Program
CPI	Consumer Price Index
CPUC	California Public Utilities Commission
DAS	(BART) Data Acquisition System
DBE	Disadvantaged Business Enterprise
ECCTA	Eastern Contra Costa Transit Authority
FMP	Fleet Management Plan
FTA	Federal Transit Administration
FTE	Full-Time Equivalent (employees)
GIS	Geographic Information System
HOV	High-Occupancy Vehicle
JLMC	Joint Labor Management Committee
LAVTA	Livermore Amador Valley Transit Authority
MTC	Metropolitan Transportation Commission
MUNI	(San Francisco) Municipal Railway
OCC	(BART) Operations Control Center
PERS	(California) Public Employees Retirement System
PFM	(BART) Passenger Flow Model
PG&E	Pacific Gas and Electric
SAMTRANS	San Mateo County Transit District
SLRT	Suspended Light Rail System
SRTP	(BART) Short Range Transit Plan
STA	(California) State Transportation Assistance
TDA	(California) Transportation Development Act
WAPA	Western Area Power Administration
WCCTA	Western Contra Costa Transit Authority (WestCAT)

CHAPTER 1

BART ORGANIZATION & SYSTEM OVERVIEW

The San Francisco Bay Area Rapid Transit District was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. Initial efforts focused on establishing the organization for the purpose of fulfilling the *BART District Act* which calls for the construction, operation, and maintenance of a rapid transit system in the Bay Area. Voter approval in 1962 of a $792 million general obligation bond issue in San Francisco, Alameda, and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71 mile system. BART was the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology.

The District is governed by a Board of nine publicly elected Directors, each representing the voters in one of nine election districts within the three-county District. Board meetings are normally conducted twice each month, are subject to prior notice, and are open to the public. Directors serve on various standing and special committees to deliberate and make recommendations to the full Board. These meetings are also subject to prior public notice and are open to the public.

The organization at the staff level (Figure 1-1) reflects the current management structure designed to effectively carry out the District's programs and policies. The General Manager, General Counsel, Controller/Treasurer, and District Secretary are Board-appointed officers and report directly to the Board of Directors. Other executive staff members consist of the Deputy General Manager, two Assistant General Managers, and four Executive Managers. These seven executive staff members, along with the Police Department and the Office of Civil Rights, report directly to the General Manager. Reporting to the executive staff are 38 Department Managers and their respective staffs. BART's FY 97 adopted budgeted workforce is 3,342 full-time equivalent positions, 2,936 of which were for operations and 406 for capital projects.

MAJOR COMPONENTS OF BART'S CAPITAL PLANT

The 1962 general obligation bond issue provided funding for BART's core system (Figure 1-2). This included 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the operating fleet), 33 stations, and an administration/operations control center. Capital improvements made over the years have added to this inventory base and include 230 more cars, 3 additional stations (Embarcadero in 1976, North Concord/Martinez in 1995, and Colma in 1996), the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland (*KE* Track), and a new central train control computer.

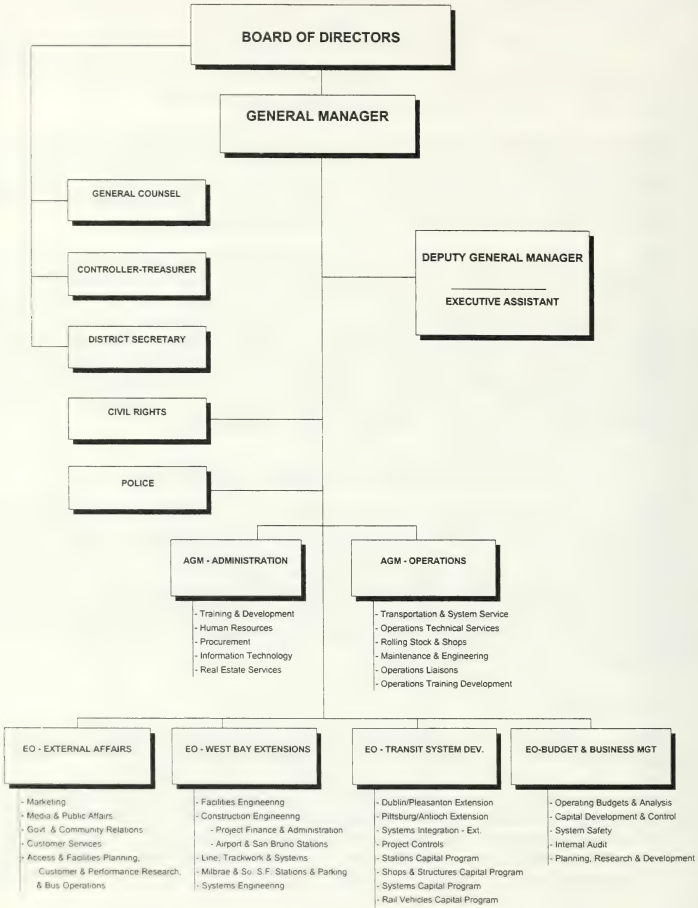
Track and Right-of-Way

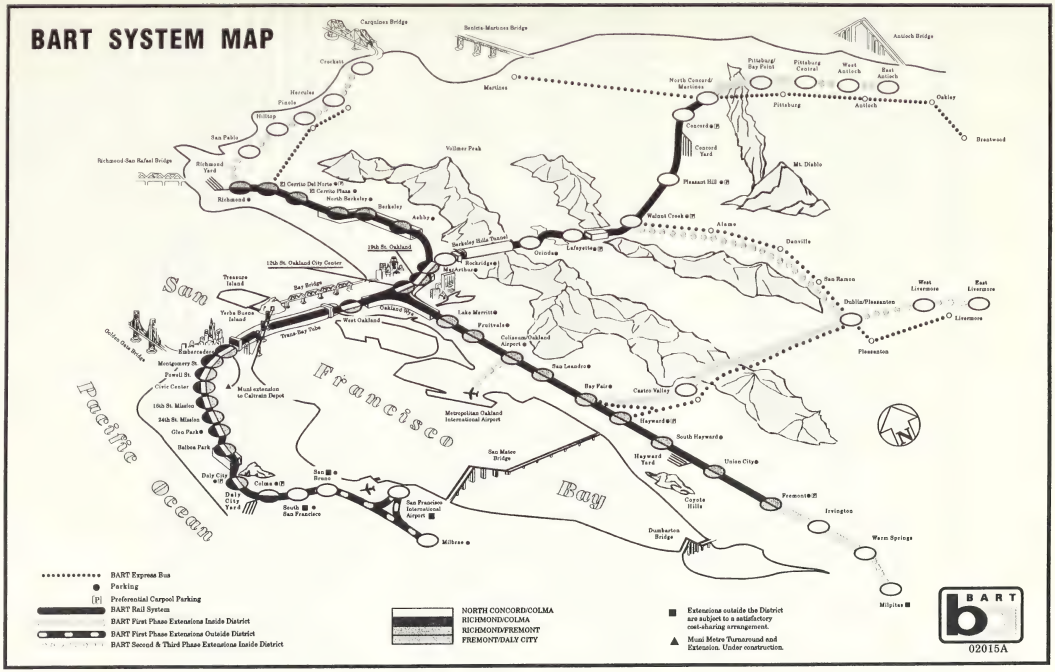
BART is a third-rail, 1,000 volt DC, electrically powered railway. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 75 miles of continuously welded, double-mainline, 66 inch gauge track (150 miles, bi-directional). Approximately 21 miles of double-mainline track are in subway, 25 miles are elevated, and 29 miles are at grade. There are 54.5 miles of additional single track located in yards, sidings, and other locations. All but 3.2 miles of this latter amount are at grade, and include leads and sidings located in the four maintenance yards. The remaining 3.2 miles largely consist of the KE track through downtown Oakland which is 1.8 miles in subway. A special track geometric vehicle is used to analyze the running rails and

Figure 1 - 1

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

FISCAL YEAR 1997 BUDGET




BART SYSTEM MAP
Carquinez Bridge
Benicia-Martinez Bridge
Antioch Bridge
Crockett
Martinez
Pittsburg/ Bay Point
Pittsburg Central
West Antioch
East Antioch
North Concord/ Martinez
Concord
Pittsburg
Antioch
Oakley
Brentwood
Hercules
Pinole
Hilltop
San Pablo
Richmond-San Rafael Bridge
Richmond Yard
Richmond
El Cerrito Del Norte
El Cerrito Plaza
North Berkeley
Berkeley
Ashby
Vollmer Peak
Concord Yard
Pleasant Hill
Mt. Diablo
Walnut Creek
Alamo
Danville
Berkeley Hills Tunnel
Orinda
Lafayette
19th St. Oakland
12th St. Oakland City Center
MacArthur
Rockridge
San Ramon
West Livermore
East Livermore
Dublin/Pleasanton
Livermore
Pleasanton
Treasure Island
Bay Bridge
San Francisco
Yerba Buena Island
Oakland Wye
Lake Merritt
Fruitvale
West Oakland
Transbay Tube
Golden Gate Bridge
Embarcadero
Montgomery St.
Powell St.
Civic Center
Muni extension to Caltrain Depot
16th St. Mission
24th St. Mission
Glen Park
Balboa Park
Daly City
Colma
Daly City Yard
South San Francisco
San Bruno
San Francisco International Airport
Millbrae
Pacific Ocean
Coliseum/Oakland Airport
San Leandro
Bay Fair
Castro Valley
Hayward
South Hayward
Metropolitan Oakland International Airport
San Mateo Bridge
Hayward Yard
Union City
Fremont
Irvington
Warm Springs
Milpitas
Coyote Hills
Dumbarton Bridge
Bay
BART Express Bus
Parking
(P) Preferential Carpool Parking
BART Rail System
BART First Phase Extensions Inside District
BART First Phase Extensions Outside District
BART Second & Third Phase Extensions Inside District
NORTH CONCORD/COLMA
RICHMOND/COLMA
RICHMOND/FREMONT
FREMONT/DALY CITY
Extensions outside the District are subject to a satisfactory cost-sharing arrangement.
Muni Metro Turnaround and Extension. Under construction.
BART
02015A

electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and a smooth operating surface. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards

Both planned preventative maintenance and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward, and Richmond), and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward shop also performs accident damage component and heavy repairs. A fifth maintenance facility located between Lake Merritt and Fruitvale Stations (Oakland Shops) provides support to buildings and grounds and equipment other than rail vehicles.

Revenue Vehicles

BART owns three types of revenue vehicles: control equipped A- and C-cars, and non-control equipped B-cars. A- and B-cars are BART's first generation vehicles, manufactured between 1971 and 1975. C-cars constitute BART's second and third generation fleet. C1-cars were manufactured between 1987 and 1990, and newer C2-cars in 1995 and 1996. Control equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 by 10.5 feet, and can be used as lead, mid-train, or trail vehicles. Trains are operated from the lead A- or C-car. Train movements are automatically controlled by computers located along the right-of-way. System train supervision is provided by BART's train control computer at the Operations Control Center located in the Lake Merritt Administration Building in downtown Oakland. Train operators aboard each train can override the automatic system should the need arise.

As of June 1996, BART owned 669 vehicles consisting of: 135 A-cars, 7 of which were accident damaged, 11 out for renovation, 1 in long term storage, 2 used as engineering test vehicles, and 1 used as a training vehicle; 304 B-cars, 7 accident damaged; 150 C1-cars, 4 accident damaged; and 80 new C2-cars delivered and accepted from Amerail, formerly known as Morrison-Knudsen. Permissible train lengths range from three to ten cars. [The three-car minimum train length is a California Public Utilities Commission requirement.] The ten-car maximum length corresponds to station platform lengths. Resulting capacity is between 192 and 720 seated passengers for three and ten-car trains, respectively. Vehicle performance specifications include a maximum 80 mile per hour speed. Revenue service is based on a 70 mile per hour maximum speed, with the 80 mile per hour capability reserved for maintaining schedule adherence. The systemwide average speed for revenue service, including stations stops, is 35.2 miles per hour.

Stations and Parking

At the end of FY 96, the system consisted of 36 stations, 14 of which are in subway, 13 elevated, and 9 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. Stations are spaced between one half to one mile apart within and adjacent to San Francisco, Oakland, and Berkeley downtown areas, and two to four miles apart in suburban areas.

Stations are accessed by elevators and escalators in addition to stairways which link various levels to streets, connecting local transit, and parking areas. In downtown San Francisco and Oakland, special subway station entrances provide direct access to retail establishments. Other passenger amenities include restrooms fully accessible to persons with disabilities which are located in the paid area of each station.

Automatic fare collection equipment is located in each station to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information with regard to train schedules, local area destinations, connecting transit, and other information to assist BART riders. A public address system linked to BART's operations control center is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Depending upon location, station access facilities include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks, and parking. Parking is an important feature at suburban stations where a majority of BART riders arrive by auto. As of June 1996, BART's station parking inventory (Figure 1-3) consisted of 36,210 free spaces at 25 stations and 246 spaces at Lake Merritt Station (daily charge of 25¢). Free parking is also provided at four BART express bus park-ride lots which contain a total of 697 spaces.

Administration/Operations Control Center

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland above Lake Merritt Station. This facility also houses BART's Operation's Control Center (OCC) and central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer at OCC provides overall systemwide supervision of train movements. BART's OCC is an around-the-clock operation. Train controllers and other BART certified personnel located in OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between OCC and all train operators. A separate telephone system provides voice communication to station agents. Remote cameras located at key points allow OCC personnel to visually monitor train movements and station activities.

Figure 1 - 3

FY 96 BART PARKING SPACE INVENTORY (a)

LINE AND STATION	SPACES AS OF JUNE 1995 (b)	PLANNED FOR FY 96	ADDED IN FY 96	AS OF JUNE 1996 (b)
SAN FRANCISCO LINE				
Colma	0	2,155	2,237	2,237
Daly City	1,990	0	0	1,990
Glen Park	54	0	0	54
West Oakland	419	0	0	419
SUBTOTAL	**2,463**	**2,155**	**2,237**	**4,700**
FREMONT LINE				
Fremont	2,494	0	0	2,494
Union City	1,180	0	0	1,180
South Hayward	1,307	0	0	1,307
Hayward	1,896	0	0	1,896
Bay Fair	1,822	0	0	1,822
San Leandro	1,332	0	0	1,332
Coliseum	1,084	0	0	1,084
Fruitvale	1,103	0	0	1,103
Lake Merritt (c,d)	246	0	0	246
SUBTOTAL	**12,464**	**0**	**0**	**12,464**
RICHMOND LINE				
Richmond	799	0	0	799
El Cerrito del Norte (d)	2,518	0	0	2,518
El Cerrito Plaza	766	0	0	766
North Berkeley (d)	870	0	0	870
Ashby	626	0	0	626
MacArthur	608	0	0	608
SUBTOTAL	**6,187**	**0**	**0**	**6,187**
CONCORD LINE				
North Concord/Martinez	0	2,050	1,939	1,939
Concord	2,513	0	0	2,513
Pleasant Hill	2,869	0	0	2,869
Walnut Creek (d)	1,966	0	0	1,966
Lafayette (d)	1,521	0	0	1,521
Orinda (d)	1,411	0	0	1,411
Rockridge (d)	886	0	0	886
SUBTOTAL	**11,166**	**2,050**	**1,939**	**13,105**
RAIL TOTAL	**32,280**	**4,205**	**4,176**	**36,456**
EXPRESS BUS PARK/RIDE				
Pittsburg/Bay Point	200	0	0	200
East Antioch	252	0	0	252
West Livermore	153	0	0	153
Brentwood	0	92	92	92
EXPRESS BUS TOTAL	**605**	**92**	**92**	**697**
SYSTEM GRAND TOTAL	**32,885**	**4,297**	**4,268**	**37,153**

(a) Data are for BART-owned paved facilities at existing rail stations and express bus park/ride lots.

(b) Individual station counts have been revised as a result of a BART parking space inventory conducted in June 1996.

(c) A $0.25 parking charge is in effect at Lake Merritt Station. All other BART-owned parking is free for BART customers.

(d) Walnut Creek, Lafayette, Orinda, Rockridge, El Cerrito del Norte, North Berkeley, Lake Merritt subject to parking controls.

BART RAIL SERVICE DESCRIPTION

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. Closing times for individual stations are coordinated with the schedule for the last train departure beginning approximately at midnight (Figure 1-4). The following is a description of BART rail service. BART express bus service is coordinated with the rail schedule. A description of express bus service is presented in a separate section following that for rail. BART also provides service in accordance with the Americans With Disabilities Act (ADA). A description of this service follows express bus.

Early Morning Rail Service - Weekdays

Weekday service begins at approximately 4:00 a.m., with the first train dispatches of the day from each of the system's four terminal stations. These trains operate on the North Concord-Colma and Fremont-Richmond routes. This service configuration is also known as *two-route X service*, and requires a transfer in downtown Oakland for trips which at other times are served by the Fremont-Daly City and Richmond-Daly City routes. A second set of four trains on the North Concord-Colma and Fremont-Richmond routes is dispatched 30 minutes later at approximately 4:30 a.m. At approximately 5:00 a.m., service transitions to four-route weekday base service, which continues until the start of morning peak service at about 6:00 a.m. Base daytime rail service on weekdays consists of 15-minute headways on each of the four routes in both directions: the three Transbay routes between Colma/Daly City and North Concord/Martinez, Fremont, and Richmond, and the East Bay route between Fremont and Richmond.

The Dublin/Pleasanton-Daly City route is assumed to be operational by 1997. Weekday service on this new route is planned to begin at approximately 4:00 a.m. operating at 30 minute headways until 5:00 a.m. Between 5:00 a.m. and the start of peak service at 6:00 a.m. trains will operate every 15 minutes. This service will provide a second transbay route during early morning hours.

Peak Period Rail Service - Weekdays

Peak period service corresponds to weekday commute hours, typically between 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m. Monday through Friday. During these times, trains are operated at closer headways than during base service in order to provide sufficient capacity to meet higher home-to-work travel demand. During the morning commute, there are 50 trains in operation systemwide, providing service at a minimum scheduled headway of 2.5 minutes, during the peak one hour through San Francisco and downtown Oakland. This same minimum headway service is operated during the afternoon commute period. Peak service currently requires 501 vehicles, 453 on-line and 48 additional cars used for ready reserve trains and yard moves. The 50 train, 453 car requirement includes the two temporary five-car I-680/24 mitigation trains mentioned below. All Transbay trains are sized to their 10-car maximum length during peak commute hours.

When the Dublin/Pleasanton-Daly City service begins in 1997, peak period trains on this route are planned to be seven cars long. Fremont-Daly City trains will be eight cars in length and all other transbay trains will be ten cars long. Peak period cars on line will increase by 33 over today's 453, to 486.

Figure 1 - 4

BART RAIL HEADWAYS AND HOURS OF SERVICE

	TRANSBAY ROUTES			EAST BAY	SAN FRANCISCO
	North Concord -Colma	Fremont- Daly City	Richmond- Daly City (a)	Fremont- Richmond	City Center Segment
***HEADWAYS** (minutes)*					
WEEKDAY					
Peak Hour	5.0	12.0	15.0	15.0	2.5
Midday	15.0	15.0	15.0	15.0	5.0
Night	20.0	(b)	(b)	20.0	10.0
SATURDAY					
Daytime	20.0	20.0	20.0	20.0	5.0
Night	20.0	(b)	(b)	20.0	10.0
SUNDAY					
All Day	20.0(c)	(b)	(b)	20.0	10.0(c)
***SERVICE HOURS** (time)*					
WEEKDAY					
First Train leaves	03:59	05:05(d)	04:54(d)	03:54	04:30
Last Train arrives	01:24	21:08(d)	20:53(d)	01:26	24:55
SATURDAY					
First Train leaves	06:06	08:44(d)	06:05	06:18	06:07
Last Train arrives	01:24	20:29(d)	19:57(d)	01:27	24:52
SUNDAY					
First Train leaves	08:06	(b)	(b)	08:18	08:04
Last Train arrives	01:24	(b)	(b)	01:27	24:51

(a) Peak period service on this route is extended to Colma.
(b) Route not in service during identified time period. Travel is accommodated on other routes with one transfer in downtown Oakland.
(c) Indicates supplemental midday *Double Header* trains serving Oakland and San Francisco stations (until Dublin/Pleasanton opens).
(d) Earlier and/or later service is available on other routes. Travel is accommodated on other routes with one transfer in downtown Oakland.

Two additional peak period trains were placed in service in July 1995. These 5-car trains make one run each between Concord and South Hayward stations in the morning peak period and make the reverse runs in the afternoon peak to North Concord/Martinez. The primary goal of this additional service is to provide direct access to downtown Oakland from Contra Costa County as a congestion mitigation measure for freeway construction located in the vicinity of the I-680/24 interchange. The car and train requirements for this temporary service are not included in Figure 1-4 or other figures in this document. This service may be revised once the Dublin/Pleasanton-Daly City service begins in 1997.

Base Rail Service - Weekdays, Daytime

The transition back to base service begins during the last hour of the morning peak, at approximately 8:00 a.m. Base service, which consists of 15-minute headways on each route in both directions, continues until approximately 4:00 p.m. when afternoon commute dispatches begin. Base weekday service requires a total of 39 trains operating on the system: ten trains on each of the North Concord-Colma, Fremont-Daly City, and Richmond-Fremont routes; and nine trains on the Richmond-Daly City route. [Service to Colma on the Richmond-Transbay route is provided during weekday peak periods only.] Trains stop at all stations along their designated route. The systemwide average speed for revenue service, including stations stops, is 35.2 miles per hour. As for all service periods, trains are sized to accommodate demand in compliance with the load factor standards established by the Board of Directors. When the North Concord-Colma route is extended to Pittsburg/Bay Point in 1996, one additional train will be required for that route. The 1997 opening of Dublin/Pleasanton-Daly City service, on a 15-minute headway and using 4-car trains, will bring the total base train requirement to 49.

Base Rail Service - Nights

Base night service consists of bi-directional 20-minute train headways on two routes: North Concord-Colma and Fremont-Richmond. This *two-route X service* requires a transfer in downtown Oakland for trips which at other times are served by the Fremont-Daly City and Richmond-Daly City routes. BART's train schedule allows transfers with a minimum of passenger waiting via timed train arrivals at 12th Street and MacArthur stations in Oakland. Base night service requires a total of 16 on-line trains beginning at approximately 7:00 p.m. with four terminal-station dispatches (two trains on each route providing service in both directions). The last four terminal-station train dispatches occur at or just after midnight. All four of these last trains meet and hold at MacArthur Station to insure that all passengers requiring a transfer are able to do so. These last trains end their runs at approximately 1:30 a.m. Individual station closings are coordinated with the schedule for these trains as they pass through stations.

When the Dublin/Pleasanton route opens, passengers traveling to the West Bay from stations south of Bay Fair will be able to transfer at Bay Fair to Daly City bound trains in the evening. A four-minute wait at Bay Fair will be required to transfer to trains originating from Dublin/Pleasanton. Likewise, on the return trip there is a four-minute transfer from the Dublin/Pleasanton-Daly City line to the Fremont bound trains. Passengers originating or destined to stations between Bay Fair and Fremont can also transfer at 12th Street Station to or from Colma trains.

Base Rail Service - Weekends and Holidays

Base daytime Saturday service consists of 28 trains on line, operating at 20-minute headways on two routes between 6:00 a.m. and 9:00 a.m., and then on all four routes between the hours of 9:00 a.m. and 6:00 p.m. After 6:00 p.m., base night service is in effect until closing. Base Sunday rail service consists of 16 trains on-line, operating at 20-minute headways on a *two-route X service* schedule (the same as Base Night Service) between the hours of 8:00 a.m. and closing. BART's Sunday schedule is supplemented by midday *Double Header* train service. This consists of Transbay trains operating at a 20-minute headway between MacArthur Station in Oakland and Daly City Station between 11:00 a.m. and 6:00 p.m. This service will be discontinued when Dublin/Pleasanton-Daly City service begins in 1997.

Saturday Dublin/Pleasanton-Daly City service will operate on a 20-minute headway from 6:00 a.m. until closing. On Sunday, service will begin at 8:00 a.m. and continue until closing on 20-minute headways. On both days, the service is timed with the Richmond-Fremont service to provide a short-wait transfer between San Francisco lines and the stations between Bay Fair and Fremont.

Except for minor schedule and train length modifications, BART provides the following service schedules on holidays:

CELEBRATED HOLIDAY	SCHEDULE
New Years Day	Sunday
Martin Luther King Day	Weekday
Presidents' Day	Saturday
Memorial Day	Sunday
July 4th	Sunday
Labor Day	Sunday
Columbus Day	Weekday
Veterans' Day	Weekday
Thanksgiving	Sunday
Day After Thanksgiving	Weekday
Christmas	Sunday

Special Rail Service

BART service is coordinated with major Bay Area events. Additional service for special events is provided in three ways. The first is by lengthening regularly scheduled trains which are less than the 10-car maximum length, and when BART patron demand to a particular event does not warrant higher train frequencies.

For events which require greater capacity and/or frequency of service, additional trains are placed in operation. This second method of adding service and capacity is typically implemented when the demand for BART service associated with an event is sharply peaked, such as following the end of a baseball game, rock concert, or other event having a large attendance.

The third way BART accommodates service to special events is to provide revenue operations at times when the system is normally closed, such as an early-Sunday morning opening for the annual

Bay-to-Breakers footrace in San Francisco. Examples of special BART service include: extended hours of operation on New Year's Eve; longer and more trains to serve athletic/special events at the Oakland Coliseum, U.C. Berkeley, and San Francisco Civic/Convention Center; and a special 5 a.m. Sunday morning opening and trains to the start of the *Lifespan* footrace/walk across the Bay Bridge.

EXPRESS BUS SERVICE DESCRIPTION

BART provides express bus service on twelve routes within four major travel corridors in Alameda and Contra Costa Counties as shown in Figure 1-5 and the table below. An additional route, not shown in Figure 1-5, is the *JX* express bus route which is funded by Caltrans through December 1996. This service is a freeway construction mitigation measure related to I-80 improvements currently underway. Service on this route is provided weekdays during peak commute periods only between El Cerrito del Norte Station and Pinole and Hercules.

All express bus service is coordinated with BART rail schedules, and is provided under contract with Laidlaw Transit. As shown in Figure 1-3, a total of 697 free parking spaces is currently provided at four express bus park-ride lots located on future extension station sites: Pittsburg/Bay Point (200 spaces), East Antioch (252 spaces), West Livermore (153 spaces) and Brentwood (92 spaces). An additional lot, the 196-space Pittsburg Park-Ride and Transit Center, on Bliss Avenue at Railroad Avenue, will be opening in FY 97.

BART EXPRESS BUS CORRIDORS

I-80	Between El Cerrito del Norte Station and Pinole, Hercules, and Rodeo.
SR-4	Between North Concord/Martinez Station and Martinez in central Contra Costa County, and between North Concord/Martinez Station and Pittsburg, Antioch, and Brentwood in the eastern portion of the county.
I-680	Between Walnut Creek Station and Dublin and Pleasanton.
I-580	Between Bay Fair and Hayward Stations and Dublin, Pleasanton, and Livermore.

Figure 1 - 5

BART EXPRESS BUS HEADWAYS AND HOURS OF SERVICE

	Livermore Valley - Bay Fair & Hayward Stations (a)				Eastern Contra Costa & North Concord/Martinez Station (b)				Dublin/Pleasanton & Walnut Cr. Stat.		Rodeo & El Cerrito del Norte	
	U	UL	UP	UX	PE	PE1	P2X	ME	D	DX	J	Q
HEADWAYS (minutes)												
WEEKDAY												
Peak Hour	30	30	30	30	30	30	--	30	--	30	30	30
Midday	30	60	--	--	60	60	--	--	--	60	40	--
Night	60	--	--	--	--	--	--	60	--	60	40	--
SATURDAY												
Daytime	30	--	--	--	--	--	60	--	40	--	30	--
Night	60	--	--	--	--	--	60	60	60	--	40	--
SUNDAY												
Daytime	60	--	--	--	--	--	60	60	60	--	40	--
Night	60	--	--	--	--	--	60	60	60	--	--	--
SERVICE HOURS (time)												
WEEKDAY												
First Bus lv	0525	0446	0452	0535	0509	0414	--	0535	--	0437	0451	0518
Last Bus ar	0041	2000	1929	1937	2107	0128	--	0050	--	0045	0049	2056
SATURDAY												
First Bus lv	0605	--	--	--	--	--	0600	0428	0607	--	0656	--
Last Bus ar	0023	--	--	--	--	--	0155	0025	0114	--	0029	--
SUNDAY												
First Bus lv	0840	--	--	--	--	--	0700	0926	0759	--	1012	--
Last Bus ar	0023	--	--	--	--	--	0200	0025	0056	--	1926	--

(a) To be revised when Dublin/Pleasanton Station opens in 1997.
(b) To be revised when Pittsburg/Bay Point Station opens in late 1996.
-- No service provided

ADA PARATRANSIT SERVICE DESCRIPTION

The following describes BART funded ADA paratransit service as of June 1996. BART's ADA program is currently being phased in, with a target of achieving full compliance by January 1997.

BART is addressing ADA compliance through a multi-faceted approach. BART's service area is large and overlaps service areas of several local transit operators. The District's approach to providing ADA service is, therefore, to combine services provided by local transit operators on BART's behalf with services being delivered on behalf of BART by a Paratransit Broker. These services are summarized below:

City and County of San Francisco

In 1995, BART and the San Francisco Municipal Railway (MUNI) executed an agreement whereby MUNI, which already provides ADA paratransit service to its patrons, would also provide ADA paratransit service to BART patrons traveling within San Francisco. This paratransit service is provided on a door-to-door basis by private firms which operate taxis, sedans, and/or accessible vans. Customers may telephone any of the participating paratransit providers. Most requests for paratransit service in San Francisco may be made at the time of need, similar to requesting taxi service.

Western Alameda and Contra Costa Counties

In April 1994, BART and Alameda-Contra Costa Transit (ACTransit) formed the East Bay Paratransit Consortium for the purpose of jointly implementing and administering ADA paratransit service in the BART/AC Transit combined service area. In July 1995, the Consortium hired Comsis Mobility Services, Incorporated to act as the paratransit broker for this service. In January 1996, limited paratransit service was initiated in the cities of Berkeley, Oakland, San Leandro, and Hayward. In March 1996, Transbay paratransit service was initiated between the East Bay and San Francisco. Service is door-to-door, if requested, and is provided on lift accessible vans. As of July 1, 1996, the Consortium transitioned local paratransit services and began providing ADA paratransit services in the cities of Alameda, Albany, Berkeley, Emeryville, Hayward, Oakland, and San Leandro. Dedicated sedans and vans will be used for this service. In order to access this service, riders call the paratransit broker. The paratransit broker determines the eligibility of riders, schedules requested trips, and oversees the entire program, which is provided by private transportation providers under contract to the broker.

Contra Costa County and the I-580 Corridor

BART is also responsible for providing ADA paratransit service throughout the remainder of Contra Costa County and along the I-580 corridor between the San Leandro/Hayward area and the Dublin/Pleasanton area. BART's approach for complying with its responsibilities in these areas is two pronged. First, BART has executed agreements with the Western Contra Costa Transit Authority (WCCTA), the Central Contra Costa Transit Authority (CCCTA), the Eastern Contra

Costa Transit Authority (ECCTA), and the Livermore Amador Valley Transit Authority (LAVTA), for providing all *local* ADA services on BART's behalf. These local transit operators currently operate paratransit programs, most of which are operated by private contractors using lift accessible vans. Second, for inter-jurisdictional trips and for trips which occur during hours or days when these local transit operators do not provide this service, BART will provide paratransit service, through other providers which have yet to be identified. This ADA service expansion is targeted to begin in FY 97.

BART FARE COMPONENTS AND TICKET PRICES

Components of BART's fare structure are shown in Figure 1-6. The following presents information on BART fares for rail, express bus, and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula and for FY 96 averaged $1.69 per trip, net of all discounts. Surcharges are applied for Transbay travel and trips originating from or destined to Daly City and Colma Stations, which are located in San Mateo County (San Mateo County is not a full participating member of the BART District). An additional *speed-premium* adjustment is made to fares which is based on the scheduled speed of a trip versus the systemwide average. BART's most recent fare increase took effect on April 1, 1996. The base rail fare is currently $1.00 for the shortest trips within downtowns and other local areas. As shown in Figure 1-7, the highest rail fare is currently $4.00 for the 40-mile Transbay trip between Colma and Fremont. When Pittsburg/Bay Point opens in late 1996, the highest fare will be $4.25.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 can ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may purchase a $32 high-value ticket for $30, a savings of 6.25%.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/MUNI FastPass allows unlimited use of San Francisco Municipal Railway services and BART within the City of San Francisco. As of June 1996, the price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART, BART express bus, and other Bay Area transit systems which serve BART rail stations. Features of these and other fare instruments are summarized in Figure 1-6.

Fares for BART Express Bus and ADA paratransit services are also shown in Figure 1-6. ADA fares for paratransit service funded through the joint BART/AC Transit *East Bay Paratransit Consortium* are distance based and range from $2.00 for trips less than eight miles to a maximum of $6.00 for trips of up to 24 miles. These fares are in effect as of July 1, 1996 and are expected to increase in accordance with general BART fare increases. Fares for ADA service in other areas are set by local transit agencies. ADA paratransit fares may be paid in cash or prepaid coupons in some service areas.

Figure 1 - 6

BART FARE COMPONENTS AND TICKET PRICES

Effective April 1, 1996

TRIP LENGTH:	Up to 6 miles	$1.00
	Between 6 and 14 miles [1]	$1.20 + 8.9¢/mile
	Over 14 miles	$1.91 + 5.3¢/mile
SURCHARGE:	Transbay	59¢
	San Mateo County [2]	68¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time	±3.3¢/minute
RESULTING FARES:	Range [3]	$1.00 to $4.25
	Average fare (before discounts) [4]	$1.88
	Average fare paid (after discounts) [4]	$1.69
RAIL FARE	Children under 5	Free
DISCOUNTS & SPECIAL FARES: [5]	Children 5 through 12 (75% discount)	$4.00 ($16 value)
	Persons 65 and over (75% discount)	$4.00 ($16 value)
	Persons with qualifying disability (75% disc.)	$4.00 ($16 value)
	Regular adult (6.25% discount)	$30 ($32 value)
	Excursion (entry/exit, same station) [6]	$3.40
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [7]	$28-$61 (8 denom)
MONTHLY RAIL/ SF MUNI PASS: [8]	Fast Pass -- (unlimited monthly use of BART and MUNI within San Francisco)	$35
ONE-WAY TRANSFERS TO: [9] **(issued at rail stations)**	BART Express Bus -- Zone 1	45¢ (95¢ base fare)
	Zone 2	$1.00 ($1.50 base fare)
	CCCTA	50¢ ($1.00 base fare)
	Union City Transit	25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM: [9] **(issued at rail stations)**	AC Transit -- From BART	$1.00 ($1.25 base fare)
	To BART	$1.00 ($1.25 base fare)
	SF MUNI, within SF-- From BART	$1.00 ($1.00 base fare)
	To BART	Free ($1.00 base fare)
	SF MUNI, Daly City Station-- From BART	Free ($1.00 base fare)
	To BART	Free ($1.00 base fare)
BART EXPRESS BUS: (1 Zone/2 Zone)	Children under 5	Free
	Children 5 through 12	20¢/40¢
	Regular Adult	95¢/$1.50
	Persons 65 and over	20¢/40¢
	Persons with a qualifying disability	20¢/40¢
ADA SERVICE:	East Bay Paratransit Consortium [10]	$2.00-$6.00
	BART/MUNI Cost-Sharing Agreement [11]	80¢-90¢ approximately
	All other areas	$1.00-$6.00 approximately

Figure 1 - 6 continued

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (North Concord-Orinda, Fremont-Bay Fair, Richmond-Ashby) priced at fare indicated for trips under 6 miles.

2. The San Mateo County surcharge does not apply to Transbay trips.

3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The range of fares is based on the adopted fare resolution for the fare increase effective April 1, 1996. Prior fare increases occurred on April 1, 1995, January 1, 1986, September 8, 1982, June 30, 1980, and November 3, 1975.

4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco MUNI Fast Pass. The figures shown are for FY 96.

5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program (as of July 1996, there were 292 BART ticket outlets plus an additional 162 outlets covered under the MTC-sponsored Regional Transit Connection). In-station sales booths at Montgomery, Embarcadero, 12th Street, and Concord also sell a variety of ticket types. BART's Pass Office sells all ticket types via mail order.

6. There is a three-hour limit on the excursion fare.

7. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides on BART express buses and seven other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, MUNI, SamTrans, Contra Costa County Transit Authority, Santa Clara County Transportation Agency, Union City Transit, Dumbarton Express, and Martinez Link. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.

8. BART began accepting the regular adult MUNI FastPass for BART travel within San Francisco on April 1, 1983 (discounted FastPasses are not valid on BART). FastPasses are sold at stores, places of employment, and other outlets in San Francisco.

9. Except for the two-part $1.00 (round trip) Muni transfers issued in San Francisco stations, all other one-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare. The fare savings with the transfer is equal to the base fare less the additional fare paid to the connecting transit system.

10. BART and AC Transit have formed the East Bay Paratransit Consortium, which provides service to eligible BART customers in service areas that overlap with AC Transit.

11. BART has executed a cost-sharing agreement with San Francisco which permits eligible BART customers to use paratransit service provided by MUNI for travel within the City and County of San Francisco. Taxi service is provided to customers at 10% of the meter rate, averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00.

Figure 1 - 7

BART INTER-STATION FARES

Effective April 1, 1996

| Richmond | | |

CHAPTER 2

GOALS AND OBJECTIVES & SERVICE EVALUATION

Throughout its history, BART's mission has been to deliver safe, reliable, customer-oriented transportation. With more than two decades of operational experience following its engineering and construction phases, BART continues to be guided by those key descriptive words: safe, reliable, customer oriented. Evolution of BART has been greatly influenced by challenges presented on many fronts, including those relating to technology, fiscal requirements, and political realities.

BART has continually set high standards for itself as embodied by the District's goals and objectives. Central to achieving prescribed standards is the importance the organization places on nurturing a talented and dedicated workforce, capable of maintaining the system while preparing to meet the challenges of the future. As such, the organization's effectiveness is directly related to its policies and procedures to promote positive change.

The evaluation of BART service and programs as presented in this chapter is structured around the policy framework that guides current operations and development of new services. BART's goals (Figure 2-1) are the fundamental policy statements which provide focus and help establish priorities among existing and new programs. Specific performance indicators and standards (Figure 2-2) are identified and discussed in terms of evaluating how successful the organization has been in addressing its goals.

Special SRTP topics are also discussed as they relate to the goals. These include: capital program planning and implementation, congestion management planning, emergency contingency planning, DBE (Disadvantaged Business Enterprise) and Title VI compliance, accessibility for the elderly and persons with disabilities, and privatization.

GOAL 1
Provide Safe, Reliable, High-Quality and Economical Transportation Service to the Bay Area Community

BART's first goal follows directly from its mission statement which is to deliver safe, reliable, customer-oriented transportation. The focus is train performance which requires achievement of high performance standards for all aspects of BART operations. Programs are implemented and actions routinely performed as a marketing tool to win new customers, ensuring that BART's current customers experience high-quality service.

SAFETY & SECURITY

BART operating procedures are governed by stringent safety standards. BART's Safety Department works closely with the California Public Utilities Commission (CPUC), as well as internally with BART operations, maintenance, engineering, and other departments to ensure continued compliance with all prescribed safety standards and procedures.

Figure 2 - 1

BART GOALS

1. Provide safe, reliable, high-quality and economical transportation service to the Bay Area community.

2. Deliver user-friendly services to all our customers.

3. Empower employees to function as owners of the BART organization.

4. Provide an environment free of impediments to opportunities for employees and disadvantaged business enterprises, and one which encourages cooperation and develops an organizational team of highly motivated staff.

5. Develop BART services and facilities to expand District markets and capture new revenue sources.

6. Secure and manage the funds necessary to maintain and expand the system and to operate BART according to fiscally sound business practices.

7. Take the leadership role in integrating various features of regional transportation systems in policy, finance, and operations.

8. Build constituencies at all levels of government to support the BART organization and its programs.

Figure 2 - 2

BART PERFORMANCE INDICATORS AND STANDARDS

PERFORMANCE INDICATORS	Fiscal Year 1996		
	ACTUAL	STANDARD	STATUS
Average Weekday Ridership	248,669	248,098	MET
Customers on Time			
Peak	92.4%	94.0%	NOT MET
Daily	93.1%	94.0%	NOT MET
Trains on Time			
Peak	87.0%	n/a	n/a
Daily	90.3%	95.0%	NOT MET
Peak Period Transbay Car Throughput			
AM Peak	98.8%	97.5%	MET
PM Peak	98.3%	97.5%	MET
Car Availability at 4 a.m.	475	492	NOT MET
Mean Time Between Service Failures	913	1,200	NOT MET
Elevators in Service	97.7%	97.0%	MET
Escalators in Service			
Street	92.4%	95.0%	NOT MET
Platform	98.0%	95.0%	MET
Automatic Fare Collection			
Gates	96.2%	95.0%	MET
Vendors	93.0%	90.0%	MET
Environment Outside Stations	3.5	3.0	MET
Environment Inside Stations	3.6	3.5	MET
Service Personnel	87.1%	96.8%	NOT MET
Vandalism	2.2	2.6	NOT MET
Customer Complaints			
Total Complaints	6,173	n/a	n/a
Complaints per 100,000 trips	8.5	n/a	n/a
DBE Participation	25.8%	21.0%	MET
Rail Cost per Passenger Mile	25.54 ¢	25.34 ¢	NOT MET
System Operating Ratio	56.1%	55.9%	MET
Police			
Part 1 Crime	3,164	3,856	MET
Crimes Against Persons	261	304	MET
Trains	35	--	--
Parking Lots	90	--	--
Stations	136	--	--
Auto Theft	580	668	MET
Auto Burglary	1,122	1,392	MET
Safety			
Station Incidents	720	840	MET
Vehicle Incidents	182	232	MET
Lost Time Injuries/Illnesses	190	416	MET
OSHA Recordable Injuries Illnesses	393	568	MET
Unscheduled Door Openings	23	18	NOT MET
Rule Violations Summary	26	46	MET

Emergency Preparedness

During FY 96, BART's System Safety Department continued efforts for contingency planning and emergency preparedness exercises. These efforts included activities with local fire departments, emergency medical responders, and other emergency providers. Fire departments responsible for providing services within areas containing the new extension stations and track (Colma, North Concord/Martinez, and Castro Valley) were included in BART's emergency preparedness training for FY 96. Fire departments for the Pittsburg/Bay Point and Dublin/Pleasanton areas will be included in FY 97 training.

Also in FY 96, revisions were made to the *Operations Rules and Procedures Manual*. The *System Safety Program Plan* was completed and now includes the new extensions. Activities in the area of contingency safety planning also include BART's recently revised *Emergency Plan*. This plan identifies alternate procedures and actions which may need to be taken by BART's transportation and/or maintenance departments, BART Police, local fire departments, and other emergency service providers. The *Emergency Plan*'s purpose is to aid in providing the most effective responses to a variety of emergencies that may occur within the BART system. Fiscal Year 1996 also included the first District training on the State Emergency Management System, which is the model for BART's emergency management program.

BART Police

The BART Police Department is committed to providing a safe and secure environment for patrons and employees of the District. The department is dedicated to reducing crime on District property by being proactive in its approach to the prevention of criminal activity. The department is organized into four police zones to provide more effective coverage of the system while also providing services that relate to the local communities it serves. Now in the final stages of decentralization, police substations are open at Powell Street and Walnut Creek Stations. Two additional substations will open at El Cerrito del Norte and Bay Fair Stations in FY 97. This approach will allow the department to provide better service to BART patrons and employees. BART Police is also striving to develop community ties to enhance communication and service.

SERVICE RELIABILITY

Stringent preventative maintenance procedures, efficient parts procurement and inventory methods, and technical expertise developed over the years have been instrumental in the achievement of high reliability standards.

On-Time Performance

Passenger on-time performance is defined as the percentage of customers arriving at their destination station within five minutes of the scheduled train-run times. Service in FY 96 was impacted by heavy winter rains which required slower than normal average speeds. Daily passenger on-time performance for FY 96 of 93.1% reflects this, which is just below the standard of 94% (Figure 2-2).

Compared to passenger on-time, train on-time performance for FY 96 averaged 90.3% for all operations and 87.0% for peak periods. For the second consecutive year, weather conditions and speed reductions noted above precluded the on-time performance of 94% to 97% seen in prior years.

Car Availability

During FY 96, an average of 475 vehicles were available for service each day by 4 a.m. This is 3.6% under the target of 492 cars (Figure 2-2). An increase in the number of equipment checks imposed in FY 96 for the purpose of increasing vehicle reliability placed additional demands on shop output during the year.

Mean Time Between Service Failures

Also in support of BART's delay-reduction program were efforts in FY 96 to increase the mean time between service failures. A key focus has been to reduce service delay events caused by vehicle failures to no more than one event every 1,200 car hours. A delay event is defined as any occurrence in which a train is delayed five or more minutes. Actual performance in FY 96 was one failure resulting in a service delay event every 913 car hours (Figure 2-2). Over the last two years, performance with respect to this measure has declined, in part due to the A- and B-cars requiring renovation. In response to this measure, BART's captive fleet program provides a framework for developing strategies to assist in reducing vehicle caused failures. Under this program, individual cars are assigned to specific maintenance yards, resulting in more effective control and attention to vehicle failures. Each yard has developed a *repeater car* program to reduce delay from repetitive failures.

Load Factors

Train occupancy is continually monitored at peak screenlines. Within headway and train-length constraints, appropriate train capacity is scheduled to meet demand. BART's Data Acquisition System (DAS) and automated train history files provide the data for the Passenger Flow Model (PFM) which is used in the analysis and reporting of load factors, or the ratio of on-board passengers to train seats. Peak load factors are measured over a three-hour period, one in the morning and one in the afternoon. Each three-hour peak period consists of a peak one-hour maximum demand and a *shoulder* period of two hours duration.

Morning transbay peak period load factors averaged 1.09 during February 1996, versus a target of no higher than 1.15. More detailed load factor data by route and for other time periods for FY 96 are not available.

GOAL 2
Deliver User-Friendly Service to All Our Customers

This goal speaks to providing efficient, equitable, and accessible service. This includes maintaining and enhancing customer relations, and making information readily available; coordinating services, fares, and transfers among operators; meeting federal mandates for ADA paratransit service and Title VI programs; and improving overall station accessibility.

CUSTOMER RELATIONS AND INFORMATION

BART staff receive special training to assist them in responding to customer questions and needs. A new program implemented in FY 96, *Customer Appreciation Day*, focuses on showing appreciation for BART customers.

When customers are dissatisfied with any aspect of BART service, they are encouraged to communicate their concerns directly to the Customer Services staff. Approximately 6,173 complaints were received in FY 96, on a base of 72 million riders (Figure 2-2) and 478,200 calls answered by BART's Transit Information Center. During FY 96, approximately 92% of these complaints were responded to within the goal of ten days from receipt. The goal is to respond to 95% of customer inquiries. To aid in this, a new system tracking customer complaints by location and complaint type was implemented in FY 96. This system allows Customer Services staff to track trends in particular areas in order to focus efforts on improving service delivery.

A variety of brochures are available to riders at bins located near station agent booths, entry/exit gates, kiosks, and other locations. Brochures have recently been updated to include extension stations and new fares. Also provided is information concerning how to use the system, destinations, including new stations, points of interest the system serves, and where discount tickets may be purchased. Brochures are also available in Cantonese and Spanish. The *BART & Buses* brochure, containing route and schedule information for local transit operators, is a popular all-in-one guide to the Bay Area via public transit.

BART is also making progress on *Credit/Debit Ticket Vendors* (CDV) project which will allow customers to use credit cards, debit cards, and cash for purchasing high-value BART tickets and BARTPlus tickets. This improvement will make BART easier to use and should be available in 20 stations by the end of FY 97.

INTER-OPERATOR COORDINATION

The importance of system integration has led BART to implement projects which make using transit more convenient and easier. Improvements such as coordinating schedules, fares, transfer agreements, and providing better information for inter-operator connections serve to promote use of all transit systems. Transit centers are being established at Concord, Walnut Creek, El Cerrito del Norte, Daly City, San Leandro, Bay Fair, and Hayward stations. These transit centers improve bus circulation, signs, and passenger information, and also add bus zones and more comfortable passenger waiting areas. The transit centers at Concord, El Cerrito del Norte, and Bay Fair stations

are complete and construction for the Daly City Station transit center is scheduled to be complete by the end of FY 97.

Examples of coordination with other Bay Area Transit Operators are BARTPlus and BART/MUNI FastPass. BARTPlus is advantageous to BART passengers who ride to or from BART on local bus systems. The ticket comes in eight different values ranging from $28 to $61 per half month. The ticket entitles the BART passenger to $15-$50 worth of BART rides plus unlimited rides on AC Transit (not including Transbay service), BART Express, CCCTA, Dumbarton (local service only), Martinez Link, SamTrans, Santa Clara County Transit, MUNI, and Union City Transit. The monthly $35 BART/MUNI FastPass allows unlimited travel on MUNI and on BART between Embarcadero and Balboa Park Stations in San Francisco.

BART also participates in emergency transportation service planning. This includes interim and future efforts to improve and or replace freeways damaged and/or destroyed by the October 1989 Loma Prieta Earthquake. Caltrans and individual counties are the lead agencies, through state-mandated regulations which govern county congestion management planning activities.

AMERICANS WITH DISABILITIES ACT (ADA)

The ADA requires all transit operators to provide comparable *paratransit* service to individuals who are unable to use regularly scheduled public transit services due to a disability. In order to come into full compliance with ADA requirements by the mandated January 1997 deadline, BART is working with Bay Area local transit agencies, many of which have already established paratransit services operating within BART's service area.

In April 1994, BART and AC Transit executed an agreement creating the *East Bay Paratransit Consortium*. The Consortium is responsible for administrating ADA paratransit services within the combined BART/AC Transit service area. Service is overseen by a paratransit broker who contracts with qualified service providers.

In January 1995, BART executed a cost-sharing agreement with MUNI whereby MUNI provides ADA paratransit service to BART patrons traveling within San Francisco.

During FY 96, BART executed agreements with WCCTA, ECCTA, and LAVTA, and extended a pre-existing memorandum of understanding with CCCTA, whereby these local transit operators will provide some ADA paratransit service on behalf of BART in portions of Contra Costa and Alameda Counties.

Original and updated design standards and features of stations and vehicles are evidence of BART's concern for providing a safe and accessible travel environment. The District's adopted *Key Station Plan* identifies strategies for implementing other accessibility improvements as well as those mandated by ADA. An important part of this process is the *BART Accessibility Task Force*, comprised of representatives from the elderly and disability communities. The Task Force meets regularly with BART staff for the purpose of identifying projects which may further enhance system accessibility. The Task Force has had considerable input to BART's *Coordinated Paratransit Plan*. This document, which is updated annually, was submitted to FTA (Federal

Transit Administration) in January 1995. Continued implementation of projects specified by this plan will take place over the next year to bring BART in full compliance with ADA requirements.

TITLE VI

FTA requires that federally assisted benefits and services be made available without regard to race, color, or national origin. FTA also requires that a Triennial Title VI Compliance Report be completed every three years to demonstrate that services are equitably distributed. The last triennial report was completed in FY 96. This submission is pending FTA review and approval. BART's next Title VI update is scheduled for completion in FY 99.

STATION ACCESS

Station accessibility improvements have consistently proven to be effective for making BART more user-friendly, thereby supporting increased ridership. Activities in FY 96 have addressed station access on a number of fronts as discussed below:

Parking

As of June 1996, 26 of BART's 36 stations had parking facilities, totaling 36,456 spaces. BART added 4,176 new parking spaces to rail stations in FY 96 as a result of the opening of two new stations, North Concord/Martinez and Colma (Figure 1-3). The four Express Bus Park/Ride facilities have a total of 697 spaces.

Congestion Management

BART's congestion management planning focused on developing alternatives to single-occupancy vehicle access to and egress from BART stations. The District was active in assisting large Bay Area employers in developing commute alternatives for their employees. Coordination efforts with local bus operators have resulted in better connectivity between BART and other transit modes.

BART also received funding in FY 96 to replace and provide additional station bicycle lockers. In June 1996, MTC submitted a grant application to the Bay Area Air Quality Management District for additional bicycle locker funds. If approved, the Alameda County Congestion Management Agency would receive funding to install a variety of bicycle racks at several East Bay BART stations to determine the type most useful to BART customers.

In FY 95, BART received funding from Caltrans to provide additional train service as a mitigation measure for relief of freeway traffic congestion due to construction in the vicinity of the I-680/24 interchange. This service, which began in July 1995, consists of two five-car trains during the morning commute between Concord and South Hayward stations, with the reverse of this service provided during the afternoon peak. Caltrans is also funding the leasing and operation of property for the addition of 581 *temporary* parking spaces adjacent to Pleasant Hill Station. The schedule for this additional train service will be reviewed before the Dublin/Pleasanton line opens in 1997.

As part of construction mitigation in the I-80 corridor, Caltrans also provides funding for *JX* express bus service. This service, scheduled to terminate in December 1996, operates weekdays during peak commute hours between El Cerrito del Norte Station and Pinole and Hercules.

Access Planning Activities

BART formulated an access evaluation process in FY 96 as part of developing the *Comprehensive Access Strategy Plan* for all stations. This evaluation process involves station specific Geographic Information System (GIS) data, other key access criteria, and site-specific field observations. The District now has a consistent method to assess station performance, test potential access strategies, and implement recommended access plans for each station, to improve how BART customers get to and from stations and to increase ridership. Beginning in FY 97, the *Access Strategy Plan* will assist in identifying capital program priorities.

GOAL 3
Empower Employees to Function as Owners of the BART Organization

The quality of service as experienced by BART's customers is a direct reflection of the people who deliver it. For this reason, programs to promote professional development are an important part of how BART seeks to improve its service. Specific standards have been developed for training managers, supervisors, and front-line employees. Due recognition is given with regard to employee performance, suggestions, service history, and attendance records.

The District has undertaken two major initiatives to empower the BART workforce, both of which started in 1995. The Joint Labor Management Committee (JLMC) is a 32-person committee representing union and management. The goals of the JLMC are to make organizational decisions and recommendations using a collaborative model. Processes utilized by the JLMC include interest-based problem solving and consensus.

The other initiative, referred to as *IT,* focuses on the BART management team. The effort is to eliminate or redesign processes that hinder the effective delivery of customer services to both the internal customer, BART employees, and the external customer, BART riders.

Both projects are long-term initiatives and share many common features, including customer service, empowerment of employees, and stewardship. While major milestones have been achieved in the last 12 to 14 months, it is anticipated that this multi-year program will require ongoing effort in order to realize permanent cultural change.

GOAL 4

Provide an Environment Free of Impediments to Opportunities for Employees and Disadvantaged Business Enterprises, and One Which Encourages Cooperation and Develops an Organizational Team of Highly Motivated Staff

Related to empowering employees are programs to promote career development within the organization. Consistent with current FTA regulations, from which BART's objectives were developed, efforts focus on promoting DBE participation and equal employment opportunities.

CAREER DEVELOPMENT

BART conducts Career Development workshops on a quarterly basis. The District's Shadow and Educational Assistance Programs supplement these workshops. The Joint Labor Management Committee and its creation of linchpin committees at worksites are continuing efforts to involve employees in the making of business decisions and working relations. The *IT* program is also contributing to empowering employees in the decision making process and has contributed to the elimination or streamlining of some management systems, resulting in increased efficiencies.

DBE PARTICIPATION

BART has a current objective to achieve 21% disadvantaged business enterprise participation for all District contracts determined to have disadvantaged business enterprise opportunities. During FY 96, actual DBE participation on a contract-dollar basis was 25.8% for all District contracts. Outreach activities, including trade fairs and the expansion of the Regional Transit Association's DBE directory are continuing, and technical assistance is provided on an ongoing basis to interested participants in the DBE process.

EQUAL EMPLOYMENT OPPORTUNITIES

Activities are guided by FTA and BART policies with regard to job representation by women and minorities. In FY 96, resources were allocated to conduct recruitment and focused on identifying qualified applicants for achieving specified targets. Staff resources were also strengthened with respect to goal monitoring and staff performance evaluation. As of June 1996, the District had 445 filled job opportunities for current employees through promotions and from outside applicants. Of this total, 148 positions were filled by targeted placements. This resulted in a 90.8% achievement of FY 96's objective of 163 targeted placements.

GOAL 5
Develop BART Services and Facilities to Expand District Markets and Capture New Revenue Sources

Central to promoting use of the BART system and its expansion plans is the Bay Area market for its service. Key questions in this regard are:

- How many people currently use the system?
- How do current riders rate BART service?
- Why are more people not using the system?
- What opportunities are there for increasing ridership?

THE MARKET FOR BART SERVICE

Historically, the market for BART service has grown in step with changes in population and employment, and the cost and ease of BART travel relative to the automobile. The highly congested and constrained Transbay Corridor is, perhaps, the best example of this relationship where BART's market share of Transbay travel exceeds 50% during peak commute hours.

The period from the mid-1970s through the mid-1980s shows ridership gains on the order of 7.1% annually (Figure 2-3). Maturation of BART's market, coupled with continued decentralization of the Bay Area's population and employment, has resulted in considerably slower growth since then. There is also some evidence supporting the notion that the substantial one-time ridership gain as the result of the October 1989 Loma Prieta Earthquake was at the expense of what would have normally occurred at a slower rate through the early 1990s.

Since FY 90 and prior to the April 1, 1995 fare increase, BART ridership has been virtually flat. During this same period of time and beginning in the third quarter of FY 91, the full force of the national recession hit the California economy (Figure 2-4). The loss of jobs due to the recession and closure of Bay Area military bases undermined growth in BART's commute ridership. Additionally, the recession had a direct impact on use of dwindling discretionary income. This is reflected in a lower rate of offpeak BART use as well. On a 12-month basis, BART's annual ridership peaked in March 1994 at 73.6 million trips, and, as discussed below, has been between 1.0% to 1.5% below this level since that time.

Ridership

Total ridership for FY 96 was 72.4 million trips, 1.0% over a forecast of 71.8 million trips. Fiscal Year 1996 actual and budget reflect the impact of the April 1, 1995 and 1996 fare increases. On a weekday basis, FY 96 actual ridership averaged 248,669 trips versus a budget of 248,098, just 0.2% over budget. The delayed openings of both the extensions to North Concord/Martinez and to Colma were countered by the higher than anticipated ridership retention from the fare increases.

Figure 2 - 3

ANNUAL RIDERSHIP - FY 73 THROUGH FY 96

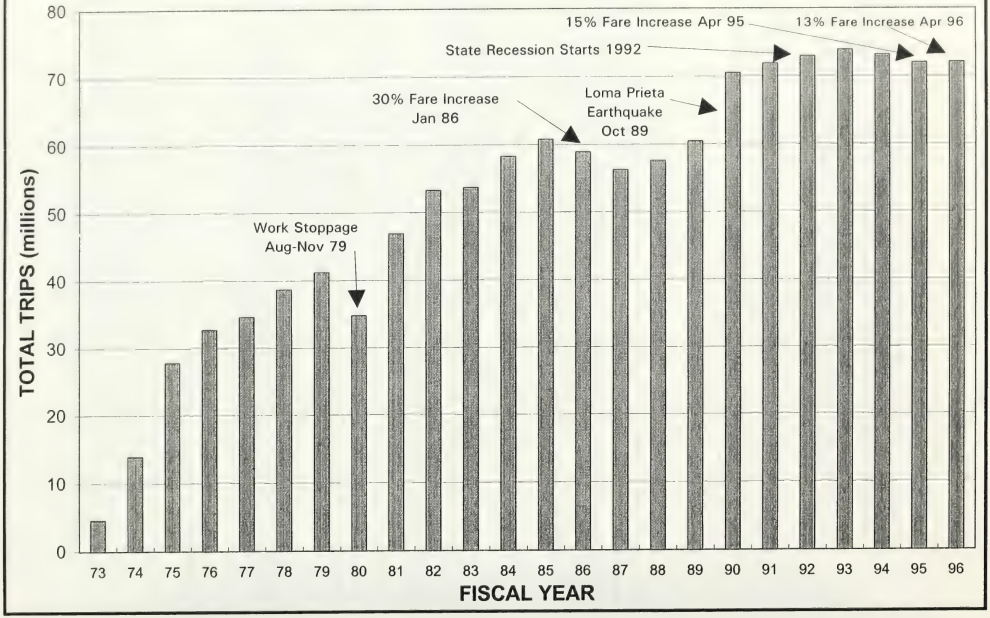
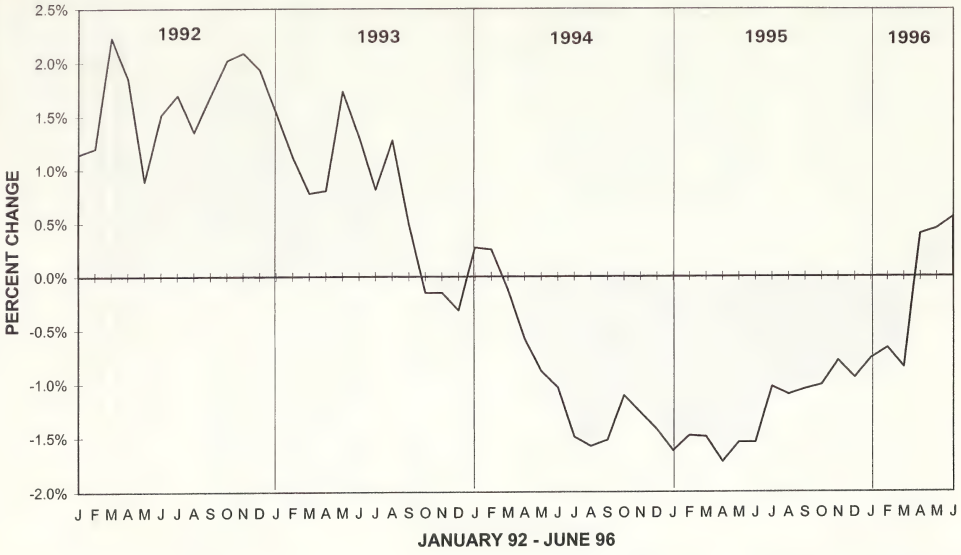


Figure 2 - 4

ANNUAL RIDERSHIP CHANGE vs PRIOR 12 MONTHS


1992
1993
1994
1995
1996
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
-0.5%
-1.0%
-1.5%
-2.0%
PERCENT CHANGE
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J
JANUARY 92 - JUNE 96

It was estimated that the April 1995 and April 1996 fare increases would result in a 3.4% and 2.5% drop in ridership, respectively (or 6.0% cumulative decrease). Analysis of patronage data suggest that the actual reduction in ridership due to the first fare increase was less than 1.0%. Average weekday patronage from April 1995 through March 1996 declined 1.2% compared to the same period one year earlier, and total ridership declined 0.9%. That trend was consistent with an already existing decline in patronage from the April 1993 to March 1994 period. The percentage decrease for both average weekday and total patronage was actually greater in the 12 months prior to the April 1995 fare increase than it was after the fare increase. As of June 1996, it is too early to tell the effects, if any, of the April 1, 1996 fare increase.

MARKETING PROGRAM

Marketing efforts are targeted to increase system ridership. Major emphasis is given to attracting riders to new extension stations and to use BART to ride to non-work destinations during off-peak hours. Campaigns include use of in-station newsletters, flyers, billboards, and print and broadcast media. Direct mailing is also used and targeted at new Bay Area residents.

As part of ongoing efforts to learn more about why people do or do not use the system, BART's Customer and Performance Research Division conducted focus groups and phone surveys in the Spring of 1995. Specifically, the focus groups targeted people who had either stopped or decreased their usage of BART. The purpose was to find out why this group of people no longer used BART regularly. The most prevalent reasons were:

- People changed their home or work locations to a place less accessible to BART.
- Other people retired, graduated school, or for other reasons stopped needing to travel on BART.
- BART fares should better reflect the value received. Customers stated that they would be willing to accept the higher fare levels if they felt were getting their money's worth for the service provided. Complaints centered on escalator and ticket machine reliability, general deterioration of the BART system, train crowding, and dissatisfaction with personnel.

Other reasons commonly mentioned by people who have reduced or stopped their BART usage were: BART travel takes too long relative to other travel modes; unavailability of parking at BART stations; concerns about service reliability; need for access to a personal vehicle during the day; and security concerns, particularly among women, and particularly at night in remote locations

While these findings point to reasons much beyond BART's control, they do call out the dynamic nature of BART's ridership. BART needs to continually replace former customers through aggressive outreach to new residents, new hires, new students, and others for whom transit is a viable option.

BART EXPRESS BUS SERVICE

Efforts to expand BART's markets and tap new revenue sources extend to its express bus service. Since privatization of this part of BART operations in 1988 and route streamlining and schedule coordination with rail, the farebox ratio for express bus service has continued to rise. The express bus farebox ratio stood at 8.5% in FY 88 compared to FY 96's level of 19.5%.

PHASE I RAIL EXTENSIONS

Rail extensions represent the largest effort for penetrating new markets. During FY 96, the first two stations of BART's Phase I extensions program opened in Contra Costa and San Mateo counties. Additional stations in Alameda and Contra Costa counties are scheduled to open in FY 97.

Pittsburg/Bay Point Extension

The 7.0 mile, two-station extension to Pittsburg/Bay Point is in its fifth year of construction. The first 2.2 mile segment to North Concord/Martinez Station opened on December 16, 1995. The remaining 4.8-mile segment to Pittsburg/Bay Point Station is scheduled to open in late 1996, providing a valuable transit link to this high growth area of eastern Contra Costa County.

Dublin/Pleasanton Extension

The 13.5 mile, two-station extension to Castro Valley and Dublin/Pleasanton is also in its fifth year of construction, and is scheduled to open in 1997. This is the longest of BART's phase I extensions and will add a new route to the system. Implementation of a West Dublin Station, originally part of this extension but later deferred due to a funding shortfall, is pending per availability of additional funding. A West Dublin Station is identified in BART's Capital Improvement Program (CIP) in the District's *Track Two* programs.

Colma Extension

The 1.6 mile extension south of Daly City to Colma Station took four years to construct, and opened on February 24, 1996. BART has entered into a special revenue/cost sharing agreement with the San Mateo County Transit District (SamTrans) to provide service within San Mateo County, which is not a full participant in the BART District.

San Francisco Airport Extension

In June 1996, the boards of directors of BART and SamTrans adopted the SFO Extension project. BART received FTA's Record of Decision in August 1996 and a funding commitment is expected from FTA in fall 1996. Scheduled to open in 2000, the 7.9 mile extension south of Colma Station calls for the construction of four stations: South San Francisco, San Bruno, one at the international terminal building under construction at the San Francisco International Airport, and an intermodal end-of-line station in Millbrae.

Warm Springs Extension

No further progress on this remaining phase I extension has been made since 1993 when Final Design work ceased due to litigation and a funding shortfall. This extension is identified in BART's CIP under its *Track One* capital program.

OTHER RAIL EXTENSIONS

In addition to the Phase I Extensions Program are other BART-sponsored rail projects. These are as follows:

Oakland Airport Connector

BART, in partnership with the Port of Oakland and AAI Corporation, was selected in September 1992 as a finalist in the FTA competition for a *Suspended Light Rail System Technology (SLRT) Pilot Project* demonstration grant. The *Feasibility Study* was submitted to FTA in September 1993. The *Oakland Airport Connector Project Update Study* was completed in December 1993. This study identifies conceptual engineering and environmental work for this extension, as well as route/mode options and environmental issues. This rail extension is identified in BART's CIP under the District's *Track Two* capital program and funding is being sought for implementation.

West Contra Costa Extension

In October 1992, the *West Contra Costa Alignment Alternatives Study* identified the four most promising BART alignments within the I-80 corridor between El Cerrito del Norte and Richmond stations and Crockett. In FY 96, BART continued to work with local communities and agencies on this extension. Future funding in support of planning activities for this Phase II extension has yet to be identified.

Pittsburg/Antioch Extension

BART has been active in three ongoing studies in this corridor. The first study will result in environmental clearance for the widening of State Route 4 between Bailey Road and Railroad Avenue, and will include a high-occupancy vehicle (HOV) lane and a median for BART to extend to Railroad Avenue. Using the information developed in this study, BART will prepare a Supplemental Environmental Impact Report for the Pittsburg-Antioch Corridor, addressing the BART extension, station siting, and interchange at Railroad Avenue. Beyond Railroad Avenue, the Contra Costa Transportation Authority and the East County Fee Authority have initiated a study to consider transportation improvements along State Route-4 to State Route-160 and eastern Contra Costa County, including the BART extension.

Passenger/Commuter Rail

During FY 95, BART conducted a feasibility study for implementing commuter rail service in the region. The results included the development of a comprehensive service plan for a proposed 200-mile commuter rail system serving five counties in the Bay Area and the Central Valley. In FY 96,

District staff utilized this feasibility study to provide the technical and planning background for a proposal to link BART service via Alameda County to San Jose (Santa Clara County). This information was then used to develop a November 1996 ballot measure in Santa Clara County that, if approved, could fund this service and other transportation projects. The District is also working with Alameda County to secure consensus, funding, and other support for implementation of this service plan. Commuter rail service is identified in BART's CIP under its *Track Two* capital program.

Also in FY 96, BART worked with local, regional, and state transportation agencies and officials to develop a comprehensive regional passenger rail service plan for the Capitol Corridor rail route from Auburn, Sacramento, and Suisun City to Oakland/San Francisco and San Jose. As a result, in July 1996, the California State Legislature enacted the Intercity Passenger Rail Act of 1996. The Act establishes the institutional arrangements and provides the necessary financial arrangements to transfer existing intercity passenger rail corridor service to statutorily created joint powers boards.

BART is identified as a member of and the managing agency for the Capitol Corridor Joint Powers Board (CCJPB) in the Intercity Passenger Rail Act. During FY 97, the District will build upon regional consensus in the Capitol Corridor to initiate a work program for transferring current Capitol Corridor service to the CCJPB. The following necessary actions have been identified to assume Capitol Corridor service: development of the CCJPB; authorization/agreement for the District to provide administrative staff as managing agency for the CCJPB; and interagency agreement with the state to transfer the service to the CCJPB. The interagency transfer agreement shall be for three years. It is anticipated that the date of transfer will be between April 1997 and July 1997, with the actual date of service transfer to be identified in the agreement.

Other projects for FY 97 include District staffing support for a multi-agency effort to evaluate potential transportation and access improvements at the Richmond Intermodal Station and participation in the California Intercity High Speed Rail Study.

OTHER MARKET & REVENUE EXPANSION EFFORTS

In addition to rail extensions, BART has continued to seek ways to expand its market and revenue base, as discussed below. Improvements discussed under Goal 1 are prime examples of this, where providing sufficient parking and coordinating services with other transit providers, for example, are critical prerequisites to expanding and tapping new markets.

Joint Development and Concessions

Continuing in FY 96, were joint development efforts between BART and local agencies for high-density, multi-land use developments of property adjacent to BART stations. BART executed a long term ground lease with Bridge Housing for property at the new Castro Valley Station. This lease calls for a 96-unit residential complex which will also house a BART Zone Command Police Facility. Negotiations were initiated and/or continued with developers for mixed-use projects at El Cerrito del Norte, El Cerrito Plaza, Fruitvale, Hayward, and Pleasant Hill stations. Additional planning studies continued and/or were initiated for potential development projects at MacArthur,

Union City, Richmond, and Pittsburg/Bay Point stations. The District also leased space in stations to private vendors for concessions.

Advanced Technology

BART continues to investigate ways to enhance its operations and revenue base through technological innovation. The Advanced Automatic Train Control (AATC) project is part of this effort, and would increase system capacity from the current system capability of 26 trains per hour in one direction to 30 or more. In May 1996, BART and Hughes Aircraft Company demonstrated the ability of the AATC system to control two trains moving simultaneously on the Hayward Test Track. The program is now proceeding with the development of equipment to be demonstrated between Lake Merritt and Fruitvale stations. Other advanced technology initiatives being pursued by BART focus on enhancing the power distribution capacity of the traction power system and improving the efficiency of maintenance related activities. A primary focus of this latter initiative is to increase the mean-time-between service failures of the revenue fleet.

Progress in other areas of technological advancement includes the District's joint effort with MFS Network Technologies for developing and installing a fiber-optic line conduit system within BART's right-of-way including the Transbay Tube. MFS Network Technologies will generate revenue by marketing and operating the conduit system for occupancy and use by private telecommunication companies. BART is to receive 91% of gross revenues from the joint venture. A second project BART has with MFS Network Technologies is the development of a new internal telecommunications system for the District. This *BART Telesystem* is to be paid for by revenues generated from the *Conduit System* project. Agreements between BART and MFS Network Technologies for this work were executed during FY 96. Design phases for the BART Telesystem and Conduit System were initiated.

Additional efforts in the area of advanced technology focus on improving system access while addressing ways to meet state and federal clean air standards. The San Francisco Bay Area Station Car Demonstration will deploy 40 electric vehicles at four BART stations for the purpose of demonstrating the station car concept. Station cars are zero-emission vehicles used by transit patrons for enhanced access to stations on the origination end of the trip or for improved egress from the station to their final destination. The District has contracted with Green Motorworks of Southern California to provide vehicles and fleet management services. The manufacturer of the vehicles is the Personal Independent Vehicle Company of Oslo, Norway. The demonstration was inaugurated in October 1995 at the Ashby station by the King and Queen of Norway. The District's first station car customer is Sybase, Incorporated, a major employer in the City of Emeryville. Sixteen employees share the use of nine vehicles at the work end of their commute. Sybase pays $100 per month for each car and BART provides preferred parking next to the station entrance and the electricity for the recharging of the vehicles. These projects are identified in BART's CIP under research and development.

GOAL 6

Secure and Manage Funds Necessary to Maintain and Expand the System and Operate BART According to Fiscally Sound Business Practices

Throughout its history, BART has taken prudent actions to ensure that fiscal constraints do not compromise the organization's ability to deliver its full service schedule. The recent recession has placed even greater pressure than in the past to find innovative ways to support the level of operations and maintenance from BART's two principle sources of revenue: passenger fares and sales tax revenue. This will become an even greater challenge in the future, as more extension stations come on line without any expansion in BART's three-county sales tax base.

FY 96 OPERATING BUDGET PERFORMANCE

BART's FY 96 annual operating budget is summarized in Figure 2-5, along with the January 1996 revised budget and fiscal year actuals. This income and expense statement reflects policy choices among management objectives. The approach underscores the importance of making tradeoffs and establishing priorities for resource use by emphasizing results and strengthening accountability. The FY 96 budget reflects BART's major themes consisting of customer service, extensions support, system renovation, operating efficiencies, and employee development. A key budget consideration in FY 96 was the implementation of the second of three consecutive fare increases, as part of the fare package adopted by the BART Board in January 1995.

The original adopted budget was revised in January 1996 after the District experienced unbudgeted non-labor expenses. The original FY 96 budget included $0.5 million for Physical Damage Losses. In October 1995, a collision between two out-of-service trains resulted in approximately $3.0 million in damage to 14 cars. In December 1995, another collision involving five out-of-service rail cars resulted in approximately $0.5 million in damage to four of the five cars. In addition, the FY 96 budget included $1.1 million of Uninsured Settlements. Due to litigation and recent settlements, outside actuarial forecasts indicated in December 1996 that the District's outstanding liability loss reserves were underfunded by approximately $0.5 million. In January 1996, sales tax and operating revenue were favorable to the original budget by $4.7 million and were forecast to remain so. The original FY 96 budget for non-labor expense was increased by $4.0 million, and sales tax and operating revenue were increased by $2.0 million each, resulting in a balanced revised annual operating budget for FY 96.

Adopted Fare Package

On January 26, 1995, the District Board of Directors adopted a fare increase package consisting of three consecutive fiscal year increases. This series of increases is forecast to generate additional revenue, funds needed to finance system renovation, ADA paratransit service, and operation of extensions.

The second of these increases became effective April 1, 1996 and raised adult fares by approximately 13% from a base of 90¢ to $1.00. Discounts for seniors, children ages 5-12, and

Figure 2 - 5

FY 96 BART OPERATING BUDGET

All Figures in Thousands of Dollars

	ORIGINAL ADOPTED BUDGET	JAN 96 REVISED BUDGET	FY 96 ACTUAL
REVENUE			
Net Rail Passenger Revenue	122,020.0	122,820.0	122,239.1
Net Express Bus Passenger Revenue	1,214.3	1,214.3	1,450.3
ADA Service Passenger Revenue	119.8	119.8	1.9
Total Net Passenger Revenue	**123,354.1**	**124,154.1**	**123,691.3**
Interest Revenue	7,190.2	8,390.2	9,355.0
Other Operating Revenue	3,986.8	3,986.8	3,880.5
Subtotal Non-Fare Revenue	**11,177.0**	**12,377.0**	**13,235.5**
Total Operating Revenue	**134,531.1**	**136,531.1**	**136,926.8**
EXPENSE			
Net Labor	168,483.0	168,483.0	166,548.6
Express Bus Service	6,934.0	6,934.0	7,443.2
Shuttle Service	95.3	95.3	18.9
Purchased Transportation	1,654.4	1,654.4	1,650.8
ADA Service	2,520.7	2,520.7	843.3
Power, Traction & Station	21,863.8	21,863.8	19,289.5
Other Non-Labor	38,560.6	42,560.6	48,467.6
PERS	0.0	0.0	0.0
Total Operating Expense	**240,111.8**	**244,111.8**	**244,261.9**
OPERATING DEFICIT	**(105,580.7)**	**(107,580.7)**	**(107,335.1)**
FINANCIAL ASSISTANCE			
Sales Tax	118,480.9	120,480.9	126,077.1
Property Tax	13,528.7	13,528.7	12,519.3
STA Assistance	487.3	487.3	285.5
TDA State Assistance	809.6	809.6	595.2
San Mateo County Service Agreement	1,113.0	1,113.0	0.0
Cost Allocation Plan Reimbursement	2,248.3	2,248.3	0.0
Total Financial Assistance	**136,667.8**	**138,667.8**	**139,477.1**
DEBT SERVICE & ALLOCATIONS			
System Renovation Bond Debt Service	(9,020.0)	(9,020.0)	(8,587.5)
90 & 91 Sales Tax Revenue Bond Debt Servi	(19,818.8)	(19,818.8)	(19,803.0)
Capital & Other Allocations	(2,248.3)	(2,248.3)	(2,152.5)
PERS Reserve Account	0.0	0.0	(1,600.0)
Total Debt Service & Allocations	**(31,087.1)**	**(31,087.1)**	**(32,142.9)**
FINANCIAL RESULT	**0.0**	**0.0**	**(0.9)**

persons with disabilities are provided at 75% of the full adult fare. BART express bus fares were also increased by 13%. The resulting fare components as of April 1, 1996 are shown in Figure 1-6. The third increase will occur on April 1, 1997, at 11.4%. As part of the January 1995 adopted fare package, the BART Board also made a commitment not to raise fares in FY 98.

Passenger and Other Operating Revenues

Net passenger fare revenue was 0.4% unfavorable to the FY 96 revised budget. Actual fare revenue amounted to $123.7 million versus a revised budget of $124.2 million. Revenue from sources other than passenger fares for FY 96 amounted to $13.2 million, 6.9% above a budget of $12.4 million. Total operating revenue from these sources amounted to $136.9 million actual versus $136.5 million budgeted, slightly favorable to the FY 96 revised budget.

Labor and Non-Labor Expense

Net labor expense during FY 96 came in 1.1% under the revised budget. Actual labor expense amounted to $166.6 million versus $168.5 million budgeted. BART's FY 96 staffing budget consisted of 2,735 full-time equivalent operating employees (FTEs) and 364 FTEs for capitalized and reimbursable labor. Staffing vacancies due to the extension stations opening later than budgeted caused the favorable variance.

Non-labor expense for FY 96 was 2.8% over budget, at $77.7 million actual compared to a budget of $75.6 million. Uninsured settlements not anticipated by the budget caused non-labor expenses to exceed budget. Total operating expense for FY 96 of $244.3 million was just 0.1% over a revised budget of $244.1 million.

Outside Services

Efforts to achieve economies of scale have led BART to contract for some functional aspects of its operations, where costs of outside services are less than could be achieved by the District. On a contract dollar basis, 4.3% of BART's operating expense budgeted for FY 96 went for services provided by outside vendors. BART's $6.9 million budgeted expense for Laidlaw Transit operated express bus service accounted for 66.0% of all District privatized expense budgeted in FY 96, at $10.5 million. Other functional areas which have been privatized include traction motor overhaul, transit vehicle wheel reconditioning, roller bearing rehabilitation, and vehicle seat cleaning.

Financial Assistance

Trends in the Bay Area economy indicate much improved economic conditions relative to one or two years ago. Increased consumer spending is reflected with FY 96's actual sales tax revenue 9.5% above FY 95's actual. This is the largest year-to-year gain since FY 90, before the full force of the national recession hit California. BART sales tax revenue for FY 96 was 4.6% favorable to budget, at $126.1 million actual versus a revised budget of $120.5 million. Property tax receipts were 7.5% unfavorable to budget. Actual receipts came in at $12.5 million versus a budget of $13.5 million. Due to the slow startup of ADA paratransit service, STA and TDA assistance was $0.4 million under budget.

Allocations From Operating Sources

Allocations from operating sources are used for servicing long-term debt and to supplement capital funds. In FY 96, debt service for the 1990/1991 C-car bonds and latest issues of bonds for system renovation, at $28.4 million, was 1.6% under a budget of $28.8 million. Other allocations were $1.6 million over budget due to the establishment of a $1.6 million reserve to fund future PERS pension fund payments. Total allocations from operating sources were 3.4% over budget. Actual allocations were $32.1 million versus a budget of $31.1 million.

Net Operating Result

For FY 96, both revenues and financial assistance were slightly above the revised budget (+$0.4 million and +$0.8 million, respectively). Operating expense (- $0.15 million) and allocations (- $1.1 million) were unfavorable to the revised budget, resulting in a small net operating deficit of approximately one thousand dollars.

Farebox Ratio

All of BART's farebox ratios came in favorable to budget for FY 96. The farebox ratio for rail operations was 52.2% and that for BART express bus service was 19.5%. Systemwide, 50.6% of operating expense was recovered through passenger fares.

Operating Ratio

BART's operating ratio, which is equal to all sources of revenue (excluding financial assistance) divided by total operating expense, was 56.1% for FY 96. This compares favorably to a revised budget target of 55.9% (Figure 2-2).

Rail Cost Per Passenger Mile

The rail cost per passenger mile for FY 96 was 25.5¢, just over a revised budget amount of 25.3¢ (Figure 2-2). For FY 96, rail operating expense came in 0.6% over the revised budget and actual passenger miles of 917.4 million came in 0.2% below a forecast of 919.3 million passenger miles.

CAPITAL REQUIREMENTS AND PROGRAM ADVOCACY

Increased competition for limited local, state, and federal funding has resulted in BART taking an aggressive role in advocating and securing resources for implementing needed capital improvements, including system renovation of the 24-year old core system. BART's capital projects and associated financial requirements are fully documented in the District's 1996 *Capital Improvement Program*, a companion document to the SRTP.

BART's Department of Capital Development and Control is responsible for development of the CIP and for advocacy of grant funding to support the program. Promotion of the District's legislative agenda for funding support is provided by the Department of Government and Community Relations.

GOAL 7

Take the Leadership Role in Integrating Various Features of Regional Transportation Systems in Policy, Finance, and Operations

BART's role in the region, by its very nature, is to join places by providing quality, car-free transportation. BART, however, cannot serve all places directly and is, therefore, only as strong as its ties to other modes of transportation. With just 75 miles of mainline double-track currently and 18 more miles to be added by the end of 1996, BART provides a common thread linking over a dozen local and long-distance ground transportation providers. With future connections to both San Francisco and Oakland International Airports, this number quickly multiplies by adding all the airlines serving these two regional facilities. Access to the system is the key, regardless of mode. For the region to maximize its investment in BART and in all forms of public transit, and to achieve clean air standards, it is of paramount concern that the Bay Area's transit systems function as an integrated whole to promote increased ridership and reduced automobile dependence.

The importance of system integration has led BART to implement projects which make using transit easier. As discussed under Goals 1 and 2, improvements such as coordinating schedules, fares, transfers, providing better information for inter-operator connections, and improving station access serve to promote use of all transit systems. Additionally, as discussed under Goal 5, continued research and development for electric cars will lead to more efficient use of automobiles for local travel, including access to BART and other forms of transit.

GOAL 8

Build Constituencies at All Levels of Government to Support The BART Organization and Its Programs

As a publicly funded agency, and one whose Board of Directors is locally elected, BART is well positioned to receive and respond to public concerns regarding the system's current status as well as its future.

In addition to communication via Board-related processes, BART has implemented important programs aimed at educating and promoting dialogue between the organization and interested parties, be they government bodies, individuals, special interest/professional groups, or businesses. BART's Department of Government and Community Relations oversees the District's legislative program, community-based outreach, and advocates implementation of District initiatives. A primary purpose of these functions is to secure the necessary funding to support BART operations and the District's capital program. In addition, Community Relations staff develop partnerships and pursue special projects with civic, community, business, government, police, and environmental groups in the Bay Area. These programs are designed to foster support of the BART organization, enhance ridership, and respond to customer needs. Specific objectives are identified in the *Action Plan for Systemwide Community Relations*.

The BART Accessibility Task Force advises the District on issues relating to system accessibility. Dialogue between BART and local communities is also facilitated through the Service Review Advisory Committee, which advises the District on matters relating to ADA paratransit service.

BART also works closely with the communities located near rail extension construction sites. BART *Community Service Centers* are located in Concord, Dublin, and Millbrae, where full-time staff are available to provide assistance with problems, complaints, and concerns. The Concord center is scheduled to close in December 1996, in conjunction with the opening of the Pittsburg/Bay Point Station. Special telephone *Hotlines* have been established for each of the *Community Service Centers*. Each center also has available printed materials, video and slide presentations, station models and renderings, maps, and portable exhibits.

CHAPTER 3

RIDERSHIP FORECAST & PLANNED SERVICE

BART's ridership forecast is the key driver in the formulation of service plans and underlying required capital program. Accordingly, this chapter begins with a discussion of factors which influence BART ridership. Regional population and employment growth is presented first, followed by a discussion of additional factors which impact BART ridership. Within this context, the ridership forecast for the ten year period is presented, followed by a description of the rail service plans developed to accommodate this growth which includes new extensions. The last two sections of this chapter describe service plans for BART express bus and ADA paratransit.

REGIONAL GROWTH

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are consistent with the Association of Bay Area Government's (ABAG) population and employment forecasts as published in its *Projections '96 Update*, and the Metropolitan Transportation Commission's (MTC) regional travel model. ABAG's projections are summarized below and in Figure 3-1.

Population

The nine-county regional population base is forecast to grow 1.2% annually from 6.5 million people in 1995 to 7.3 million by 2005. The three-county BART District is also forecast to increase 1.2% annually, from a base of 3.0 million people in 1995 to 3.4 million in 2005. With the recently implemented extension of BART service south of Daly City to Colma, the Peninsula travel market plays a more prominent role in District affairs. San Mateo County's 1995 population is 0.7 million people and is forecast to grow 0.8% annually to 0.8 million by 2005.

Employment

In contrast to 1.2% regional population growth, ABAG's *Projections '96* for employment suggests that there will be considerably higher growth in jobs, at a 1.8% annual rate. Demographic shifts and *in-commuting* from areas outside the region, primarily from the Central Valley, are the key reasons for the disparity between the growth in population and jobs. Employment in the nine-county Bay Area is forecast to grow from a base of 3.0 million jobs in 1995 to 3.6 million in 2005. The three BART counties are expected to experience slightly lower growth than for the region as a whole, at 1.7% per year, from a base of 1.4 million jobs in 1995 to 1.7 million in 2005. The addition of San Mateo County increases the District's 1995 employment base by 0.3 million jobs. San Mateo County's employment outlook includes 1.9% annual growth, to 0.4 million jobs by 2005.

Figure 3 - 1

REGIONAL POPULATION FORECAST

County	1995	2000	2005	Annual Growth
Alameda	1,364,600	1,453,000	1,518,700	1.1%
Contra Costa	882,700	962,900	1,059,500	2.0%
San Francisco	759,900	780,400	789,100	0.4%
District Subtotal	**3,007,200**	**3,196,300**	**3,367,300**	**1.2%**
San Mateo	696,450	727,300	754,750	0.8%
4-County Subtotal	**3,703,650**	**3,923,600**	**4,122,050**	**1.0%**
Santa Clara	1,611,200	1,719,150	1,790,050	1.1%
Marin	245,600	255,650	263,250	0.7%
Solano	379,350	423,300	472,200	2.5%
Napa	121,150	132,700	138,800	1.5%
Sonoma	432,000	476,900	509,900	1.8%
Region Total	**6,492,950**	**6,931,300**	**7,296,250**	**1.2%**

REGIONAL EMPLOYMENT FORECAST

County	1995	2000	2005	Annual Growth
Alameda	608,770	651,500	712,420	1.7%
Contra Costa	298,420	335,800	373,700	2.5%
San Francisco	534,610	567,920	600,130	1.2%
District Subtotal	**1,441,800**	**1,555,220**	**1,686,250**	**1.7%**
San Mateo	318,350	355,660	377,990	1.9%
4-County Subtotal	**1,760,150**	**1,910,880**	**2,064,240**	**1.6%**
Santa Clara	827,350	887,160	948,000	1.5%
Marin	104,870	116,790	125,620	2.0%
Solano	121,890	139,290	163,880	3.4%
Napa	50,000	56,870	68,770	3.8%
Sonoma	164,030	187,810	215,130	3.1%
Region Total	**3,028,290**	**3,298,800**	**3,585,640**	**1.8%**

Source: *Projections '96*, Association of Bay Area Governments

ADDITIONAL RIDERSHIP FACTORS

Other key assumptions used to forecast BART ridership for the current SRTP ten year period include the impact of higher fares and related demand elasticities, travel times for BART versus automobile, the schedule for starting service on extensions and subsequent ridership phase in, and system access.

BART Fares

The baseline ridership forecast consists of annual and average weekday trips for each fiscal year in the current ten year planning period. This forecast includes the impact of the January 1995 adopted fare package. This includes the following key components, the first three of which have already been implemented:

- 15.0% fare increase, effective April 1, 1995.
- Reduction in discounts from 90% to 75%, effective April 1, 1995.
- 13.0% fare increase, effective April 1, 1996.
- 11.4% fare increase, effective April 1, 1997.
- No fare increase in FY 98.

Load Factors

BART's current policy with regard to load factors is to provide capacity where possible such that the maximum average load factor for discretionary trains (i.e., those trains which BART can effectively alter) is 1.15 during peak periods and not more than 1.00 in the offpeak. This does not include the average for all peak period trains, as experienced by riders, but only for discretionary trains, and is used for scheduling purposes.

This SRTP assumes that sufficient peak period capacity would be provided to maintain actual current load factor conditions for all peak period trains throughout the ten year planning horizon. This means that, on typically, load factors would not go above 1.35 in the peak hour, shoulder period load factors would average approximately 1.15, and offpeak service load factors would average no higher than 1.00.

Travel Times

The faster BART run times which took effect in June 1992 have been carried forward through the ten year planning period. Degradation of auto travel times is also assumed, reflecting increased highway congestion as growth in demand outstrips programmed highway improvements. This is consistent with the MTC travel model.

Extensions Service

BART's 1996 SRTP ridership and financial forecasts are based on the schedule as of Spring 1996 for the opening of new rail stations. These include Pittsburg/Bay Point Station in Late 1996 and Castro Valley and Dublin/Pleasanton stations in 1997. The first two extension stations, North Concord/Martinez and Colma, are in operation. The extension of rail service south of Colma Station, consistent with the adopted project, is assumed to open in mid FY 01.

The 1996 SRTP ridership and operating financial forecasts reflect only the above rail extensions to the core system, and do not include operations of any other rail facilities and services identified as Priority 1 and Priority 2 projects in BART's unfunded *Track Two* Capital Improvement Program. These projects include the West Dublin Station, Warm Springs Extension, West Contra Costa County Extension, extensions to points further east in Contra Costa and Alameda counties, and Commuter Rail. The District will continue to seek funding for these projects, and will include corresponding operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

It is assumed that the relationship between the supply and demand for BART station parking remains relatively unchanged. As identified in Figure 3-2, BART plans call for the addition of 11,611 parking spaces at stations within the current ten year planning period. Of this number, 11,111 parking spaces are for extension stations and 500 are for expansion of core system parking facilities.

It is also assumed that transit services operated by other Bay Area agencies which interface with BART will approximate current levels. BART has already discontinued portions of BART express bus routes which formerly ran parallel to rail extensions. These routes will continue to be adjusted as each extension station opens for revenue service (refer to *Express Bus Service Plan*, below).

BASELINE RAIL RIDERSHIP FORECAST

As shown in Figure 3-3, BART's baseline ridership forecast calls for patronage to increase from 73.7 million trips in FY 97 to 100.6 million trips in FY 06. This forecast includes the impact of the January 1995 adopted fare package identified above, and no additional fare increases in subsequent years.

Core System Ridership

The underlying assumption for the baseline ridership forecast is that core system use will grow at a rate of just under 1% annually from FY 97 without any additional fare increases. This represents modest growth and is consistent with past trends relative to growth in population and employment. Note that, as discussed above, District population and employment over the next ten years are forecast to increase annually by an average of 1.2% and 1.8%, respectively. An increase for core system ridership of about 1% annually is, therefore, at the low end of the population and employment growth range.

Figure 3 - 2

BART PARKING SPACE INVENTORY

PARKING EXPANSION PLANS AT EXISTING & FUTURE STATIONS

EXISTING STATIONS	SPACES AS OF JUNE 96 (a)	PLANNED FOR FY 97	PLANNED FOR FY 98 - FY 06	TOTAL PROJECTED BY FY 06
SAN FRANCISCO LINE:				
Colma	2,237	0	0	2,237
Daly City	1,990	0	0	1,990
Glen Park	54	0	0	54
West Oakland (b)	419	0	0	419
Subtotal	**4,700**	**0**	**0**	**4,700**
FREMONT LINE:				
Fremont	2,494	0	0	2,494
Union City (c)	1,180	0	0	1,180
South Hayward	1,307	0	0	1,307
Hayward	1,896	0	0	1,896
Bay Fair	1,822	0	0	1,822
San Leandro	1,332	0	0	1,332
Coliseum	1,084	0	0	1,084
Fruitvale (c)	1,103	0	0	1,103
Lake Merritt	246	0	0	246
Subtotal	**12,464**	**0**	**0**	**12,464**
RICHMOND LINE:				
Richmond	799	0	0	799
El Cerrito del Norte	2,518	0	0	2,518
El Cerrito Plaza (d)	766	0	500	1,266
North Berkeley	870	0	0	870
Ashby	626	0	0	626
MacArthur	608	0	0	608
Subtotal	**6,187**	**0**	**500**	**6,687**
CONCORD LINE:				
North Concord/Martinez	1,939	0	0	1,939
Concord	2,513	0	0	2,513
Pleasant Hill (e)	2,869	0	0	2,869
Walnut Creek	1,966	0	0	1,966
Lafayette	1,521	0	0	1,521
Orinda	1,411	0	0	1,411
Rockridge (c)	886	0	0	886
Subtotal	**13,105**	**0**	**0**	**13,105**
EXISTING STATIONS TOTAL	**36,456**	**0**	**500**	**36,956**
EXTENSION STATIONS				
DUBLIN LINE:				
Castro Valley	0	1,125	0	1,125
Dublin/Pleasanton	0	2,619	0	2,619
Subtotal	**0**	**3,744**	**0**	**3,744**
PITTSBURG LINE:				
Pittsburg/Bay Point	0	2,030	0	2,030
Subtotal	**0**	**2,030**	**0**	**2,030**
WEST BAY LINE:				
South San Francisco	0	0	1,337	1,337
San Bruno	0	0	1,000	1,000
San Francisco Airport	0	0	0	0
Millbrae	0	0	3,000	3,000
Subtotal	**0**	**0**	**5,337**	**5,337**
EXTENSION STATIONS TOTAL	**0**	**5,774**	**5,337**	**11,111**
SYSTEM GRAND TOTAL	**36,456**	**5,774**	**5,837**	**48,067**

(a) Individual station counts have been revised as a result of a BART parking space inventory conducted in June 1996.

(b) A future parking project is subject to reavaluation and identification of a funding source.

(c) No plans are identified for Union City, Fruitvale, and Rockridge stations.

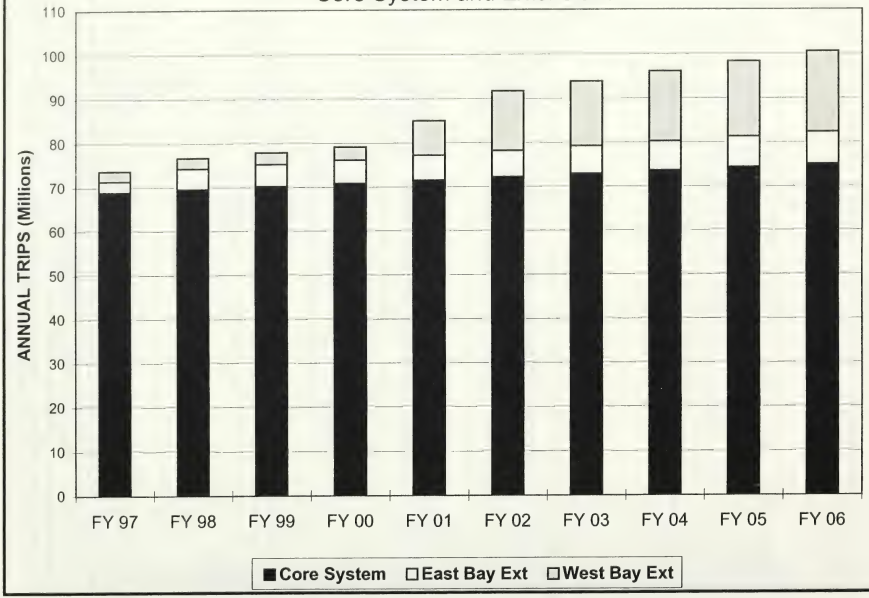
(d) Contra Costa County Measure C provides funding for parking expansion in the City of El Cerrito. BART and the City are studying a possible future 500-space parking project at the El Cerrito Plaza Station.

(e) Improved parking at Pleasant Hill Station added 581 temporary spaces as a construction mitigation measure during I-680/24 reconstruction. This temporary parking is not reflected in the station total for Pleasant Hill.

Figure 3 - 3

BART RIDERSHIP FORECAST

Core System and Extensions



BART's baseline ridership forecast builds off the March 1996 estimated/actual of 72.1 million trips for FY 96, which includes the impacts of the 15% fare increase effective April 1, 1995 and the 13% fare increase effective April 1, 1996. With the entire adopted fare increase package phased in by April 1997, and expected erosion of demand, core system ridership is forecast to reach 75.0 million trips in FY 06.

Extensions Ridership

Ridership for extensions, which assumes the service start dates identified above, is consistent with the MTC regional travel model and San Francisco Airport Extension environmental documentation for Locally Preferred Alternative VI Aerial Design Option. It is forecast that in FY 06, the nine extension stations will bring 25.6 million new trips to the BART system. This is 34.1% more than the forecast for the core system in the same fiscal year. This extensions' ridership figure represents system use that would otherwise not have occurred on the core system via access or egress from any of the 34 existing stations. The following summarizes the incremental ridership for the Phase I rail extensions:

Alameda and Contra Costa County Extensions: Along with the opened North Concord/Martinez station, the opening of Pittsburg/Bay Point, Castro Valley, and Dublin/Pleasanton in FY 97 is forecast to bring 2.5 million new trips to BART in FY 97. This is forecast to increase to 4.7 million new trips in FY 98 and reflects a full year of operation for all East Bay extension stations. Incremental ridership for these four stations is forecast to increase an average of 5.7% annually to 7.3 million trips in FY 06.

San Mateo County Extension: Colma Station is forecast to add 2.3 million new trips to BART in FY 97. In FY 00, the last full year before the start of service to San Francisco Airport and Millbrae, Colma Station ridership is forecast to grow to 3.0 million trips. In FY 06, the five Peninsula extension stations south of Daly City are forecast to add 18.3 million new BART trips.

Systemwide Ridership

By FY 01, the BART system will have 43 stations and 101 miles of double-mainline track. Systemwide ridership is forecast to increase 36.6% from a budget of 73.7 million trips in FY 97 to 100.6 million in FY 06. This 3.5% average annual growth includes the impact of the January 1995 fare increase package.

RAIL SERVICE PLAN

Ridership growth over the next ten years for both the core system and extensions will require a larger fleet, more trains, and more frequent service relative to today's schedule. Figure 3-4 summarizes how BART plans to expand service to insure that sufficient capacity is available to accommodate the projected 37% gain in ridership, from 73.7 million trips budgeted for FY 97 to 100.6 million trips in FY 06. Key elements of this expansion plan, the details of which are presented below, call for:

Figure 3 - 4

BART SERVICE EXPANSION PLAN

FY 96 ACTUAL, FY 97 - 06 PROJECTED (a)

	CARS									TRAINS			
FISCAL YEAR	CAR MILES millions	MAXIMUM ONLINE CARS	READY RESERVE CARS	PEAK SERVICE REQMNT	YARD LOGISTICS CARS	CARS IN FOR MAINT	FLEET REQMNT	PLANNED OPERATING FLEET	EXCESS (DEFICIT) CARS	MAX TOTAL TRAINS ONLINE	MAX TBAY TRAINS PER HOUR	MIN TBAY HEADWAY ALLOWED minutes	MIN TBAY HEADWAY NEEDED minutes
96 (b)	47.4	443	40	483	8	110	601	669	68	48	18	2.25	3.33
97	56.8	486	33	519	8	112	639	639	0	57	22	2.25	2.73
98	56.8	486	18	504	8	120	632	632	0	57	22	2.25	2.73
99	56.8	493	22	515	8	110	633	633	0	57	23	2.25	2.61
00	57.0	497	28	525	8	100	633	633	0	57	23	2.25	2.61
01	63.2	543	10	553	8	100	661	661	0	75	27	2.00	2.22
02	64.5	555	35	590	8	99	697	697	0	75	27	2.00	2.22
03	65.6	557	32	589	8	100	697	697	0	75	27	2.00	2.22
04	65.6	557	31	588	8	101	697	697	0	75	27	2.00	2.22
05	65.6	557	29	586	8	103	697	697	0	75	27	2.00	2.22
06	65.6	557	28	585	8	104	697	697	0	75	27	2.00	2.22

(a) Service levels as of June 30 of each fiscal year.
(b) Cars and trains shown for FY 96 do not include the two 5-car I680/24 mitigation trains (North Concord/Martinez - South Hayward).

- Increasing BART's fleet from 669 vehicles currently to 697 with receipt of 28 more cars as part of the extension to San Francisco Airport.

- Adding 27 trains to BART's peak period schedule, increasing the maximum number of online trains from 48 currently (not including the two temporary I680/24 mitigation trains) to 75, including 1 shuttle train from Millbrae Station to San Francisco International Airport.

- Increasing Transbay service from the current schedule of 18 trains per hour to 27 per hour. This will require reducing the system's minimum scheduled headway capability from two-minutes fifteen seconds currently to two minutes or less by FY 01. This improvement will effectively allow for increasing transbay service to 30 trains or more per hour.

The achievement of this service expansion is predicated on the timely implementation BART's capital improvement program as documented in the CIP. The CIP builds off the operational parameters and requirements presented in this SRTP. Together, these two documents advocate and support BART's grant applications for project funding; system renovation and improvements needed to keep the core system in top condition, complete extensions, and other upgrades and enhancements needed to support expanded operations. The following are some of the highlights from BART's *Capital Improvement Program* to support this expansion (see *CIP* for details):

- Rebuilding of the original 439 A- and B-cars.

- Renovation of stations, including automatic fare collection (AFC) equipment, escalators, and elevators.

- ADA accessibility improvements including other elevator enhancements, parking, and signs.

- Renovation and replacement of communications and train control systems, including implementation of AATC to support two-minute minimum scheduled headway service.

- Renovation of shops and yards, and replacement of maintenance and other essential equipment.

- Completion of the Pittsburg/Bay Point, Dublin/Pleasanton, and San Francisco International Airport extensions; and support of others, including extensions to Warm Springs, Oakland Airport, regional Commuter Rail, and BART's Phase II extensions program.

- Completion of additional projects to support increased capacity, including additional vehicles, expansion of maintenance shop capacity, increased traction power, train control upgrades, reliability improvements, improved bus transfer facilities at stations, and other station access improvements.

- Completion of BART's *Seismic Retrofit Program.*

- Continued research and development efforts for the purpose of seeking ways to improve operations through technological innovations and advancements.

Fleet Management Plan

BART is required to submit a Fleet Management Plan (FMP) to FTA annually. The purpose of the document is to define the current and projected BART revenue vehicle fleet size and operating spare ratio. It includes a description of revenue service planned to accommodate extensions and forecast growth in patronage, as well as an assessment and projection of needs for vehicle maintenance. The same rail service plans and operating assumptions were developed for both the FMP and the SRTP. Detailed information regarding the balancing of vehicle demand and supply can be found in the latest FMP, dated May 22, 1996. Future SRTPs will incorporate the FMP into the Rail Service Plans section of this Chapter.

Car Requirements

Future car requirements were forecast using BART's *Service Planning Model* which allocates system capacity by route. As shown in Figure 3-4, BART's online car requirements are forecast to increase from 443 currently to 557 in FY 06, reflecting the addition of 27 peak period trains over today's 48. This does not include the temporary service of two five-car I680/24 mitigation trains. It is also assumed that the fleet size will increase from 669 vehicles currently to 697 by the time service to San Francisco Airport begins in FY 01. Based on the assumptions used in this forecast, as discussed below and shown in Figure 3-4, BART is anticipated to have a sufficient number of vehicles to meet projected demand.

Load Factors: Required capacity is determined by accommodating projected demand at maximum screenlines for given load factors. As stated previously, the service plans in this SRTP are based on maintaining current peak period load factor conditions on all peak trains. This means averaging a 1.35 load factor during peak hour operations, 1.15 during the shoulder periods, and a maximum load factor of 1.00 for offpeak service. Note that these load factors represent *targets*. Actual allocation of capacity may differ as impacted by system operating constraints, special requirements, and/or other considerations as discussed below.

Captive Fleet Program: Allocation of capacity assumes continuation of BART's *Captive Fleet Program* which assigns individual cars to a specific yard. This program has helped BART improve vehicle reliability and will become even more important as the fleet expands. Accordingly, the service plans include individual cars arriving at the same yard from which they were dispatched earlier in the day.

Modular Train Sizing: The service plans also respect *modular train sizing*. BART has developed and uses this scheduling strategy for optimum use of its varied vehicle fleet and to minimize labor requirements in the yards for altering train lengths throughout the day. BART currently sizes trains on a *5/5* basis for transbay service and on a *3/6/9* basis for the East Bay route. This means that the transition from the morning peak to midday service, for example, can easily be accommodated by splitting each 10-car transbay train in half to form two 5-car trains. On the East Bay route, 9-car trains can be split up into three 3-car trains, or one 6-car train and one 3-car train. The transition

from midday to the afternoon peak service involves the reverse procedure. Experience has shown that the labor savings and service benefits of modular train sizing outweigh its disadvantages which include running trains that are somewhat longer than actually needed, adding power and maintenance expense.

Minimum Service Frequencies: In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service would be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: North Concord/Martinez-Transbay, Dublin/Pleasanton-Transbay, and Richmond-Fremont.

Service by Route and Extensions: Figure 3-5 summarizes the online train and car requirements by route. Note that each route has a *color designation* based on system route maps located in each BART car and station, as well as in information brochures. [The yet-to-be implemented Dublin/Pleasanton-Transbay route has been given a blue color designation]. These car and train requirements are based on the following service assumptions:

- *YELLOW LINE*, North Concord/Martinez-Transbay Route. Service to Pittsburg/Bay Point Station will be an extension of current North Concord-Transbay service at a frequency of no less than a train every 15 minutes north of Concord Station. Higher frequency service may be added to maintain load factors within policy limits. South of Daly City Station, weekday Yellow Line service is assumed to be no greater than a train every 15 minutes. Other Yellow Line trains are to reverse direction at Daly City Station.

- *RED LINE*, Richmond-Transbay Route. Service south of Daly City Station is provided during peak periods only and is an extension of Richmond-Transbay service, at a service frequency no greater than a train every 15 minutes. During the offpeak, service on this route terminates at Daly City Station. With the opening of stations south of Colma in FY 01, all Richmond-Transbay trains are to serve the entire San Francisco Airport extension on a 15-minute base headway.

- *GREEN LINE*, Fremont-Transbay Route. Service is assumed to be operated on this route as it is currently with trains reversing direction at Daly City Station for the return trip to Fremont.

- *BLUE LINE*, Dublin/Pleasanton-Transbay Route. Service on this new route is assumed to operate all day at a minimum weekday base headway of 15 minutes. Plans call for trains on this route to reverse direction at Daly City Station for the return trip to Dublin/Pleasanton.

- *ORANGE LINE*, Richmond-Fremont Route. Service is assumed to be operated on this route as it is currently with trains serving the East Bay from Richmond to Fremont.

- *MILLBRAE-SAN FRANCISCO AIRPORT SHUTTLE,* A three-car shuttle is expected to be operated between these two stations when service south of Colma opens mid FY 01.

Figure 3 - 5

TRAINS AND CARS ONLINE ROUTE SUMMARY
FY 96 ACTUAL, FY 97 - 06 PROJECTED (a)

TOTAL ONLINE TRAIN SUMMARY, BY ROUTE

FISCAL YEAR	RED *Richmond*	YELLOW *N. Concord*	GREEN *Fremont*	BLUE *Dublin*	TRANSBAY SUBTOTAL	ORANGE *East Bay*	MB-SFIA SHUTTLE	SYSTEM TOTAL
96 (b)	9	19	10	---	38	10	---	48
97	9	19	10	9	47	10	---	57
98	9	19	10	9	47	10	---	57
99	9	21	10	9	49	10	---	59
00	9	21	10	9	49	10	---	59
01	13	26	12	11	62	12	1	75
02	13	26	12	11	62	12	1	75
03	13	26	12	11	62	12	1	75
04	13	26	12	11	62	12	1	75
05	13	26	12	11	62	12	1	75
06	13	26	12	11	62	12	1	75

TOTAL ONLINE CAR SUMMARY, BY ROUTE (c)

FISCAL YEAR	RED *Richmond*	YELLOW *N. Concord*	GREEN *Fremont*	BLUE *Dublin*	TRANSBAY SUBTOTAL	ORANGE *East Bay*	MB-SFIA SHUTTLE	SYSTEM TOTAL
96 (b)	90	190	100	---	380	63	---	443
97	90	190	80	63	423	63	---	486
98	90	190	80	63	423	63	---	486
99	84	206	76	64	430	63	---	493
00	84	206	80	64	434	63	---	497
01	93	248	76	72	489	51	3	543
02	97	252	80	72	501	51	3	555
03	97	254	80	72	503	51	3	557
04	97	254	80	72	503	51	3	557
05	97	254	80	72	503	51	3	557
06	97	254	80	72	503	51	3	557

(a) Service levels as of June 30 of each fiscal year.
(b) Cars and trains shown for FY 96 do not include the two 5-car I680/24 mitigation trains (N. Concord/Martinez - S. Hayward).
(c) Changes in midday train lengths, which drive modular sizing patterns utilized (ie: 5/5/10, 4/6/10, 4/4/8), cause fluctuations in car requirements by route by fiscal year.

Symmetrical Route Merging and Minimum Headways: Trains merging from individual routes onto common track through downtown Oakland require symmetrical headway operations. This means that service must be provided on each route at the same headway or one that is an even multiple of it. It is also assumed that once any given route requires closer-headway service at higher frequencies, headways would be adjusted for all other routes to maintain proper train merging. This situation is projected to occur in FY 01 when transbay demand requires additional peak period trains, up from four trains per hour to five. Peak period headways on all routes are assumed to be reduced from a train every 15 minutes to one every 12 minutes. The one exception is service on the *Yellow Line* (North Concord/Martinez-Transbay route) which is to be provided at a higher frequency during peak periods, due to patronage demand. In addition, extra peak period trains will be short-turned on the *Yellow Line* as necessary to maintain balanced load factors. This reduction in headways results in an increase in the number of online trains and effectively reduces average train lengths.

The transition to a 12-minute route headway will require the capability to operate the system at a minimum scheduled headway of two minutes. The *Advanced Automatic Train Control* (AATC) system will be required for this level of service. This project is assumed to be completed and in operation by the time it is needed in FY 01 as noted above. With AATC, peak hour transbay service capability will increase to 30 trains per hour. This translates to schedules using five trains per hour on each of the *Red Line, Green Line,* and *Blue Line*, and twelve trains per hour on the *Yellow Line*. BART is forecast to have three train slots remaining and available for future expansion of service beyond the level planned for FY 06.

Maintenance Requirements: As shown in Figure 3-4, BART currently has an average of 110 cars in for maintenance at any given time. It is assumed that with capital investment into BART maintenance shops, the number of cars in for unscheduled maintenance will decrease. With the projected expansion of the fleet to 697 cars by FY 01, the number of cars in for maintenance for the ten-year planning period will range from 99 to 120. This assumes that scheduled capital improvements are made to maintenance shops to increase output.

Yard Logistics Cars: BART allocates two cars per maintenance yard for logistical moves in assembling and disassembling trains. Accordingly, eight cars have been carried forward throughout the planning period for this purpose.

Ready Spare Cars and Car Deficits: The current practice of allocating a 10-car train for each terminal station is assumed to be revised and is implicit in the service plans for this SRTP. Under the new assumption, the Fremont and Dublin/Pleasanton terminals will have ready reserves equal to the length of the routes' peak period trains, eight and seven cars, respectively. It is also assumed that ready spare vehicles are to be placed in service when car deficits arise. Note that through FY 02, up to 36 vehicles are continually rotated out of the fleet in accordance with the schedule for completing the *Car Renovation Program*. Once this program is completed in May 2002, the 36 cars will no longer be rotated out the fleet and will be used to maintain a higher number of ready spares. However, forecast growth in demand gradually consumes the available capacity such that some ready reserve cars are always needed for revenue service.

EXPRESS BUS SERVICE PLAN

The proposed modifications for BART express bus routes builds off revisions which have been made to date and focus on improving the performance of this service. This is to be accomplished through route revisions and integration with new rail service. The following summarizes BART's proposal for its express bus service (refer to Figure 1-5 for current service details by route):

State Route-4 Corridor

Express bus service is currently provided on four routes between North Concord/Martinez Station and Martinez in the central part of Contra Costa County; and between North Concord/Martinez Station and Pittsburg, Antioch, and Brentwood in the eastern portion of the county. Route modifications are proposed for implementation with the start of new rail service in this corridor as follows:

Route ME: This route currently operates daily between North Concord/Martinez Station and Martinez, and no modifications are planned.

Route PE: This route currently operates on weekdays between North Concord/Martinez Station and Antioch. When Pittsburg/Bay Point Station opens in late 1996, BART proposes to make this rail station the new western terminal for the PE express bus route.

Route PE1: This route currently operates on weekdays between North Concord/Martinez Station and Brentwood. This express bus route's terminal will be relocated to Pittsburg/Bay Point Station when new rail service begins and will provide weekend service.

Route P2X: This route currently operates weekends between North Concord/Martinez Station and Brentwood. In late 1996 when Pittsburg/Bay Point Station opens and PE1 service is extended to weekends, it is proposed that this route be discontinued.

Interstate-580 Corridor

Express bus service is currently provided on four routes between Hayward and Bay Fair stations in the west and the Livermore Valley via I-580 to the east. Route modifications and the addition of a new express bus route are planned for implementation with the start of rail service in this corridor. The express bus service in this corridor is as follows:

Route U: This route currently operates daily between Hayward Station and Pleasanton. Plans call for discontinuing service on this route effective in 1997 when rail service to Castro Valley and Dublin/Pleasanton stations begins.

Route UX: This route currently operates on weekdays during peak hours only between Bay Fair Station and Pleasanton. This route is also slated to be discontinued effective in 1997 when rail service to Castro Valley and Dublin/Pleasanton stations begins.

Route UL: This route currently operates weekdays between Bay Fair Station and Livermore. Effective in 1997, the western terminal for this route is to be relocated to Dublin/Pleasanton Station with service discontinued west of this station. This route will run between the new Dublin/Pleasanton Station and the intermodal transfer center in downtown Livermore.

Route UP: This route currently operates on weekdays during peak hours only between Bay Fair Station and Hacienda Business Park in Pleasanton. BART proposes to discontinue this route effective in 1997 when rail service to Castro Valley and Dublin/Pleasanton stations begins.

Route UE: BART proposes to implement a new *Freeway Flyer* route with service to be provided weekdays during peak hours only between Dublin/Pleasanton Station and the Lawrence Livermore National Laboratory. The start of service for this new express bus route will be coordinated with the 1997 opening of the Dublin/Pleasanton Station.

Interstate-680 Corridor

Express bus service is currently provided on two routes between BART's Walnut Creek Station and Pleasanton via I-680. Route modifications proposed for this corridor are as follows:

Route DX: This route currently operates on weekdays between Walnut Creek Station and Hacienda Business Park in Pleasanton. In July 1996, this route was divided into the DX and DUX. The DX provides service between the Walnut Creek Station and Bishop Ranch Business Park in San Ramon. The DUX provides service between Bishop Ranch Business Park and Hacienda Business Park in Pleasanton. The DX operates on 30 minute headways during the peak hours and 60 minute headways during off peak. DUX operates on 60 minute headways all day. A reduction in midday and evening service is proposed, along with establishing Dublin/Pleasanton Station as the new southern terminal for this route, when rail service begins to this station.

Route D: This route currently operates on weekends between Walnut Creek Station and Stoneridge Mall in Pleasanton. BART proposes to streamline the route, resulting in reduced run times and faster service. This route will terminate at the Dublin/Pleasanton Station when rail service begins at this station.

Interstate-80 Corridor

Express bus service is currently provided on three routes between BART's El Cerrito del Norte Station and Pinole, Hercules, and Rodeo via I-80. Planned route modifications in this corridor are as follows:

Route J: This route currently operates daily between its southern terminal at El Cerrito del Norte Station and Pinole and Hercules to the north. BART proposes to continue service on this route as currently provided.

Route JX: This route currently operates on weekdays during peak hours only between El Cerrito del Norte Station and Pinole and Hercules. Caltrans funds this service as a construction mitigation

measure related to I-80 construction work. No revisions are proposed for this route through FY 97, per Caltrans' commitment to provide funding for this route through December 1996.

Route Q: This route currently operates on weekdays during peak hours only between El Cerrito del Norte Station and Pinole. BART proposes to continue service on this route as currently provided.

ADA PARATRANSIT SERVICE PLAN

During FY 97, BART will expand paratransit services throughout its entire service area, coming into full compliance by the federally mandated date of January 26, 1997. Federal regulations define the ADA paratransit service area as being within 0.75 mile corridor on each side of a bus route or, as in BART's case, a 0.75 mile radius around a BART station. As BART extension stations open, it is assumed that BART's ADA service area will expand accordingly.

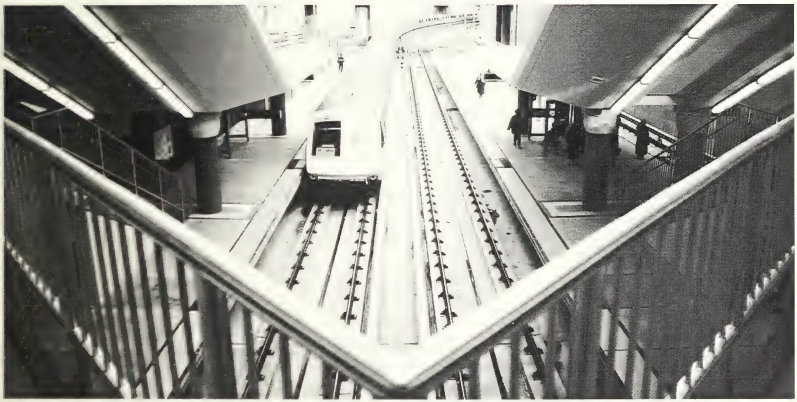
Persons eligible for ADA paratransit service will be able to make a reservation for a ride at least one day before and up to 14 days in advance. A standing order may be used for trips made regularly to and from the same place, at the same time and day of the week. As discussed in Chapter 1 under *ADA Paratransit Service Description*, dedicated sedans and vans and/or taxis will be used to provide most trips. Transbay service will be available through the East Bay Paratransit Consortium to destinations in San Francisco.

The data below summarize BART's share of anticipated annual ridership during FY 97.

SERVICE AREA	RIDERSHIP
East Bay Paratransit Consortium (31% of the program total)	183,000
San Francisco MUNI (8.8% of the program total)	97,000
Contra Costa (not incl. service provided by Fixed Route Operators)	30,000
I-580 Corridor	13,000
TOTAL ANNUAL RIDERSHIP	**323,000**

CHAPTER 4

FISCAL YEAR FORECASTS & FINANCIAL PLAN



BART's SRTP financial plan for FY 97 through FY 06 focuses on the fiscal requirements for providing service as described in Chapter 3. The financial plan was developed in conformance with the Metropolitan Transportation Commission's guidelines for preparing SRTPs. Key guidelines specify that SRTPs be financially constrained and balanced, and that they include MTC's forecasts for regional funding. BART's SRTP financial plan reflects these considerations. Sources are identified for revenue, expense, financial assistance, debt service, and other required allocations. Underlying assumptions upon which the SRTP forecast is based are also discussed.

The FY 97 budget is presented first and is the foundation for the ten year projections. Following the FY 97 budget is a discussion of the principles used to develop the District's financial forecasts for FY 98 through FY 06. The base financial forecast is then identified, and is followed by a discussion of alternative futures which have been developed for planning purposes.

It should be noted that the following financial plan includes the impact of the formulas contained in the BART-SamTrans Comprehensive Service Agreement dated February 28, 1990. This agreement was renegotiated and signed by the General Managers of both agencies on June 19, 1996. Analysis indicates that no significant fiscal impact to the District's financial outlook should be expected under the new agreement. The renegotiated agreement is planned for inclusion in BART's 1997 SRTP financial forecast.

FOUNDATION OF THE SRTP FINANCIAL PLAN -- FY 97 ADOPTED BUDGET

The foundation and starting point for the SRTP ten year financial plan is BART's adopted budget for FY 97, the operating portion of which is summarized in Figure 4-1. This financial statement provides for full support during the fiscal year for core system operations and extensions service. The FY 97 adopted operating budget also funds BART's ADA paratransit deficit and bond debt service for system renovation. The budget includes $300.7 million in operating revenue and financial assistance, balancing an equal amount in operating expense and debt service. BART's adopted FY 97 operating budget provides funding to augment eight key areas of emphasis:

- Daily service delivery
- Systemwide renovation
- Extensions service
- Safety and security
- Training and human resources
- ADA and system access
- Planning and regional leadership
- Financial obligations and cost reductions

The adopted FY 97 operating budget continues in the spirit of prior year District budgets with respect to cost control and adds further savings in power expense, express bus service, and pay progression. Last year's FY 96 budget funded $4.1 million in aggressive cost containment measures including the reduction of 39 management positions effective January 1, 1996; labor contract wage savings in accordance with a new pay progression scale; express bus route modifications; and lower medical and workers' compensation insurance costs. During FY 94 and

Figure 4 - 1

FY 97 BART ADOPTED OPERATING BUDGET

All Figures in Thousands of Dollars

REVENUE	
Net Rail Passenger Revenue	143,829.2
Net Express Bus Passenger Revenue	1,171.1
ADA Service Passenger Revenue	688.4
Total Net Passenger Revenue	**145,688.7**
Interest Revenue	7,659.6
Other Operating Revenue	3,732.3
Subtotal Non-Fare Revenue	**11,391.9**
Total Operating Revenue	**157,080.6**
EXPENSE	
Net Labor	190,188.5
Express Bus Service	5,828.8
Shuttle Service	99.0
Purchased Transportation	6,169.9
ADA Service	1,731.9
Power, Traction & Station	21,507.2
Other Non-Labor	43,584.2
Total Operating Expense	**269,109.5**
OPERATING DEFICIT	**(112,028.9)**
FINANCIAL ASSISTANCE	
Sales Tax (BART 75%)	128,925.7
Property Tax	13,232.6
ADA Assistance	223.4
TDA State Assistance	1,188.9
San Mateo County Service Agreement	0.0
Total Financial Assistance	**143,570.6**
DEBT SERVICE & ALLOCATIONS	
System Renovation Bond Debt Service	(9,994.2)
90 & 91 Sales Tax Revenue Bond Debt Service	(19,947.5)
PERS Reserve Account	(1,600.0)
Total Debt Service & Allocations	**(31,541.7)**
FINANCIAL RESULT	**0.0**

FY 95, the District eliminated an additional 55 positions. These three years of staff reductions have reduced management headcount by approximately 20%. The adopted FY 97 operating budget builds on these prior year savings.

On the revenue side, the adopted FY 97 operating budget is conservative in not assuming any change to core system ridership except for a small patronage loss for a full year of the Board adopted April 1996 fare increase and the first three months of the previously approved April 1997 increase (e.g., April through June 1997). The adopted FY 97 operating budget assumes 4.8% annual sales tax growth on FY 96 actual receipts through March 1996, the latest available information when the budget was formulated.

The FY 97 budget also assumes 5.0% annual growth for property tax, in this instance based on first half receipts for FY 96. The adopted FY 97 operating budget delivers on the promise not to use any of the proceeds from the Board adopted fare increases to balance the core system's financial requirements. The adopted budget allocates the fare increase proceeds to fund BART's system renovation bond debt service, the ADA paratransit service deficit, and rail extensions service startup.

FY 97 Operating Revenue

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Net Passenger Revenue

Total passenger revenue for FY 97 is budgeted at $145.7 million and is 17.8% higher than FY 96's actual of $123.7 million. This gain reflects the addition of extensions ridership and a full year's impact of the Board adopted April 1996 13.0% fare increase, compounded by the previously approved April 1997 11.4% increase during the last quarter of the FY 97. Express bus and other bus revenue for FY 97 is budgeted at $1.2 million, and is 19.2% under FY 96's actual of $1.5 million. This decline reflects a projected decrease of express bus ridership as the result of a shifting of passengers to new rail extension service. Decreased express bus ridership and revenue is offset by the impact of the fare increases noted above. ADA paratransit service passenger revenue is budgeted at $0.7 million in FY 97.

Non-Fare Revenue

Revenue from sources other than passenger fares includes interest income on operating fund balances. This line item is budgeted at $7.7 million in FY 97. Other non-fare revenue line items include concessions, advertising, rental and lease agreements, parking collections (at Lake Merritt Station only), fines, and forfeitures. Revenue from these sources is budgeted at $3.7 million.

FY 97 Operating Expense

Total operating expense for FY 97, which includes service for five extension stations, is budgeted at $269.1 million. This is 10.2% above FY 96's actual of $244.3 million. FY 96 had approximately one-half year of service to North Concord/Martinez and Colma extension stations only.

Labor Expense and Staffing

Labor expense, which constitutes approximately 71% of BART's operating budget, is set to rise 14.2% from $166.5 million in FY 96 to $190.2 million in FY 97. This $23.7 million gain reflects increasing emphasis on extensions service. To support extensions, District staffing is budgeted to increase by 165.1 full-time equivalent employees (FTEs) in FY 97. Systemwide service and other initiatives will require 37.0 additional FTEs. These initiatives address improvements for maintenance, safety and security, training, ADA, and other programs which support improved rail service. In FY 97, a net of 16.0 capital positions are to be realigned into the operating budget. These positions, less 18.0 that were eliminated from the FY 96 budget, result in total District staffing of 2,935.5 FTEs budgeted in FY 97. This is a net gain of 200.1 FTEs relative to the FY 96 budget.

Express Bus and Shuttle Bus Service Expense

The expense for BART express bus and shuttle bus operations is budgeted to decrease 20.6% from $7.5 million in FY 96 to $5.9 million in FY 97. This decrease reflects the express bus service modifications identified in Chapter 3 as rail extensions are brought on line. Express bus expense includes the hourly rates specified in the most recent Laidlaw contract which became effective in January 1996.

ADA Paratransit Service Expense

Plans call for BART to come into full compliance by the January 1997 federally mandated deadline with regard to providing ADA paratransit service. FY 97 is the final transition year for phasing of this program which began in the latter part of FY 96. The buildup of new ADA service reflects the large increase in expense from FY 96's actual of $0.8 million to $6.2 million budgeted in FY 97.

Purchased Transportation Expense

This expense is a reimbursement to MUNI for discounted transfers which are vended to passengers within the paid area of San Francisco BART stations for connecting travel on MUNI transit lines. The current agreement which governs this reimbursement ties this payment to the growth in sales tax. This expense amounted to $1.65 million in FY 96, and is budgeted at $1.73 million in FY 97.

Power Expense

Station and traction power expense constitute approximately 8% of the District's operating budget. Power expense is targeted to increase 11.5% from FY 96's actual of $19.3 million to $21.5 million in FY 97. This increase reflects higher car miles due to assumed extension openings in FY 97, as well as a full year of service for Colma and North Concord/Martinez. Offsetting this increase are lower power rates from Pacific Gas and Electric's (PG&E) general rate reduction and the purchase of power from Western Area Power Administration (WAPA). Additional reductions in power expense, not reflected in the FY 97 budget, are anticipated when contracts with PG&E are put into place for the delivery of substantial amounts of hydroelectric power from WAPA and the Bonneville Power Administration. Legislation passed in September 1996, and currently awaiting the Governor's signature, is expected to result in BART realizing a substantial portion of these latter savings which were not built into the FY 97 budget.

Other Non-Labor Expense

This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous items. These non-labor expense line items are budgeted at $43.6 million in FY 97, 10.1% below FY 96's actual of $48.5 million.

FY 97 Financial Assistance

The District's FY 97 operating budget includes $143.6 million from all sources of financial assistance. This is 2.9% growth over FY 96's actual financial assistance of $139.5 million. The sources of this funding are as follows:

Sales Tax Financial Assistance

The sales tax rates in the current three-District counties include a dedicated 0.5% transit operating subsidy. BART receives 75% of this amount with the remaining 25% shared by MUNI and AC Transit. Sales tax revenue for the April-June 1996 quarter alone was up 16.3% over the same quarter in 1995. This was one of the largest quarterly gains for sales tax financial assistance ever recorded in BART's history which helped push FY 96 sales tax to 9.5% above FY 95's.

The FY 97 budget for sales tax financial assistance was formulated in late Winter 1996 and later revised to reflect March 1996 year-to-date performance (i.e., which, with the State's six-week reporting lag, reflects actual receipts through mid-February 1996). BART's adopted FY 97 budget for sales tax revenue was set at $128.9 million, versus an actual of $126.1 million for FY 96.

Property Tax Financial Assistance

BART also receives a portion of property tax proceeds in the three-District counties to cover operating expense. The FY 97 adopted budget set property tax revenue $13.2 million, or 4.6% above FY 96's estimated/actual of $12.6 million. This forecast was based on FY 96 first half receipts. Actual property tax for FY 96 came in under this estimate at $12.5 million. FY 97 property tax is budgeted 5.7% over FY 96's actual.

State Transportation Assistance (STA)

BART historically has allocated STA assistance to its capital budget. However, STA is now identified as a funding source for ADA paratransit service expense. Accordingly, the District's adopted FY 97 operating budget includes a portion ($0.2 million) of its total STA allocation for ADA paratransit service.

Transportation Development Act (TDA) Financial Assistance

In recent years, BART has received on the order of $0.5 million in TDA funds annually for general operating purposes. The FY 97 adopted operating budget includes a total of $0.5 million in TDA for this purpose. An additional $0.7 million in TDA is also included in the FY 97 adopted budget for ADA.

New Dedicated ADA Financial Assistance

BART's FY 97 budget assumes that all District ADA paratransit service expense will be paid out of existing funding sources, as noted above. No new dedicated source of ADA funding is assumed in the FY 97 budget.

San Mateo County Service Agreement

The District's FY 97 adopted operating budget assumes no required subsidy from San Mateo County as payment for BART rail service south of Daly City Station. According to the formulas in the February 28, 1990 cost-revenue sharing agreement, revenue is currently greater than operating expense and that relationship is projected to continue.

FY 97 Debt Service and Allocations

BART's financial requirements have traditionally included allocations from its operating budget for funding certain obligations. These obligations include bond debt service as well as contributions to the District's capital program. These line items are discussed as follows:

System Renovation Bond Debt Service

This line item is new to BART's operating budget starting in FY 97. This is for the debt service on the first of four planned issues of bonds, the proceeds of which are to be used for system renovation and other portions of BART's capital program. The amount budgeted for this purpose in FY 97 is $10.0 million.

1990 and 1991 Sales Tax Bond Debt Service

This expense is for servicing the debt on the 1990 and 1991 issues of bonds, the proceeds of which were used primarily to purchase 80 additional C-cars. The FY 97 adopted operating budget includes $19.9 million for this purpose.

Capital Program Allocations

The FY 97 adopted operating budget assumes no direct allocations to capital from operating sources other than for the bond debt service identified above.

PERS Reserve Account

To offset the impact of the required resumption of employee pension payments to the California Public Retirement System (PERS), $3.2 million has been budgeted to be set aside in a separate PERS Reserve Account: $1.6 million as a carry forward from FY 96 income and an equal amount from the adopted FY 97 operating budget.

FY 97 Financial Result and Indicators

The District's FY 97 adopted operating budget is balanced with sources of income equal to expense. Budgeted financial performance is favorable relative to levels achieved in prior years, and reflects efforts to contain costs and improve productivity for BART's core operations. The FY 97 budget also reflects the impact of the fare increases which were adopted by the Board in January 1995 as a means of supporting system renovation, ADA paratransit service, and extensions operations.

Farebox Ratio

The farebox ratio for rail operations is budgeted to increase from 52.2% in FY 96 to 56.3% in FY 97. BART express bus operations are budgeted to return 20.1% of this service's expense. This projection compares to a 19.5% express bus farebox ratio in FY 96. ADA paratransit service is forecast to have an 10.9% farebox ratio. The systemwide farebox ratio for all modes is budgeted to be 54.1% in FY 97. This compares to FY 96's actual of 50.6%.

Operating Ratio

The system operating ratio is budgeted to increase from an actual of 56.1% in FY 96 to 58.4% in FY 97.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile was 25.5¢ in FY 96. The FY 97 budget calls for this measure to increase 3.5% to 26.4¢ per passenger mile. This change reflects the additional startup expense in preparation for increased extensions service relative to the forecast buildup of ridership.

FISCAL PLANNING PRINCIPLES AND NEEDS

As presented in the preceding sections, BART's adopted budget for FY 97 is the foundation for the SRTP financial plan for fiscal years 1998 through 2006. The discussion below turns to the principles which guided the development of the financial plan. This is followed by a general discussion of the overall fiscal needs BART will have in the upcoming ten year period. With the principles and needs outlined, details are presented for the base financial forecast and each of three alternatives, including their respective underlying assumptions.

Principles For Developing the Financial Plan

BART's financial plan for fiscal years 1998 through 2006 was developed in conformance with MTC's guidelines for preparing SRTPs. These guidelines include the key requirements that the overall SRTP financial plan be constrained and balanced, conforming to MTC's forecasts for regional financial assistance. Accordingly, BART's financial plan is predicated on the following principles:

- **The forecasts for passenger revenue should be based on ridership projections which are derived from ABAG/MTC regional growth and transportation models, and should reflect latest regional transportation conditions.** The forecast for passenger revenue is based on BART's conservative projection for core system ridership which is based on the most recent ABAG and MTC data available. This is supplemented by an assessment of current conditions and projected impacts. Further, the forecast of passenger revenue incorporates ridership projections for extensions which are identified in adopted environmental documentation. The SRTP financial plan assumes only those fare levels that have been approved by the District Board of Directors to date (i.e., as part of the January 1995 adopted fare package).

- **The forecast for non-fare revenue should be realistic and achievable.** The forecast for revenue derived from sources other than passenger fares is also based on BART's conservative

projections. Sources for this revenue are either existing, programmed, or highly likely to be implemented, and are generally assumed to grow at 3.0% CPI throughout the planning period.

- **The forecast of expense should reflect planned service levels, anticipated one-time or recurring new fiscal requirements, and overall improved levels of productivity.** The forecast of expense was developed based on BART's detailed Operations and Maintenance Cost Model, and reflects the fiscal requirements of providing the service levels as described in Chapter 3. The expense projections include the savings as the result of implementation of cost reduction measures as discussed in the introduction to the FY 97 adopted budget, above, and others which could be successfully implemented. Other expense items include the resumption of payments to PERS in FY 98, required debt service, and allocations to cover portions of BART's capital program.

- **The forecasts for regional sources of financial assistance should include MTC's projections.** The forecast for sales tax, STA, and TDA financial assistance are from MTC's regional projections. These include MTC's forecast for STA and TDA for general operating purposes as well as for the funding of ADA paratransit services, which are also shown in BART's Coordinated ADA Paratransit Plan.

- **The forecasts for other sources of financial assistance should be conservatively projected and based on historical data.** The forecast for property tax is based on 5.0% annual growth, which has been the long-term trend for this source of financial assistance.

These financial planning principles, in effect, establish overall parameters for the expenses BART is likely to incur versus its sources of income. Within this financial framework are key fiscal needs which influence this SRTP's financial plan. These fiscal needs are discussed in the following section.

BART's Fiscal Needs

BART's key fiscal needs in the current SRTP timeframe are well documented and have been identified in the 1994 and 1995 SRTPs and CIPs, the District's budget pamphlets for FY 96 and FY 97, as well as in other reports. All of the District's key fiscal needs relate to the fact that BART is an aging and growing system. As such, the key fiscal needs point to the requirement to provide additional funds for system renovation and meet the federal ADA paratransit service mandate.

In May 1994, the District and MTC jointly adopted a cooperative funding program to address BART's most immediate needs for system renovation. This agreement calls for MTC to program $450.8 million for BART renovation projects, and for BART to internally generate $200.5 million as its match to the proposed grant funds. The SRTP and CIP, in fact, propose generating substantially more than $200.5 million, in order to fund essential capital projects which are beyond the scope of the agreement with MTC. The strategy for raising the funds needed for system renovation included a series of four planned bond issues and the January 1995 adopted fare increase package. The debt service requirement for the first two issues of these bonds is covered by the fare increase package (i.e., through FY 98). The debt service for the third issue of system renovation

bonds is scheduled to add $7.0 million in FY 99, growing an additional $14.0 million in FY 00 with the fourth issue.

In addition to the above fiscal obligations is the projected need for $76.0 million to support BART's ten-year capital program (refer to the 1996 CIP). This fiscal requirement has recently been identified under MTC's revised capital program fund projections.

Another key fiscal consideration is ADA service. BART is scheduled to come into full ADA compliance in January 1997 per federal mandate. As discussed above, the District's FY 97 budget provides for full ADA paratransit service support, which is budgeted at $5.6 million net of fare revenue in the current fiscal year. With FY 98 being the first full year of ADA compliant service, this net expense is forecast to increase to $8.2 million.

BASE FINANCIAL FORECAST AND ASSUMPTIONS

The following sections present individual elements contained in BART's base financial forecast. As shown in Figure 4-2, the base forecast builds upon the District's FY 97 adopted budget and consists of fiscal year projections for revenue, expense, financial assistance, debt service, and other required allocations. The process used to develop the base forecast is discussed below. Identified are cost reduction measures, adjustments to revenue and expense, and the underlying assumptions for each element.

Operating Revenue Forecast

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Rail Passenger Revenue

The underlying basis for projecting rail passenger revenue, before deduction for San Mateo County surcharge revenue, is the rail ridership forecast presented in Chapter 3. Trips which involve San Mateo County station use are identified as part of a special analysis to determine San Mateo County surcharges. According to the February 28, 1990 cost-revenue agreement, passenger fare surcharges collected at stations south of Daly City for BART trips not involving transbay travel are to be returned to San Mateo County. The SRTP revenue projections are consistent with this agreement and credit San Mateo County with this revenue. [BART's 1997 SRTP will update this information per the June 19, 1996 renegotiated service agreement.]

Fare revenue is then reduced by BART's 11.0% systemwide discount rate. This step converts the forecast of gross fare revenue to a net revenue basis which represents the actual level of passenger fares BART is forecast to receive. In calculating rail passenger revenue, the SRTP financial model also adjusts ridership to account for previously approved fare increases and associated erosion of demand. Based on the methodology described above, rail passenger revenue is projected to increase from a base of $161.1 million in FY 98 to $220.8 million in FY 06.

Figure 4 -2

1996 SRTP BASE FINANCIAL FORECAST

Regional Sales Tax Growth of 6.1% Annually & No New ADA Funding Source

All Figures In Millions of Dollars

	Adopted Budget FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06
REVENUE										
Net Rail Passenger Revenue	145.8	161.1	164.0	166.8	184.2	200.7	205.6	210.6	215.6	220.8
San Mateo County Surcharge Revenue	(2.0)	(2.4)	(2.6)	(2.9)	(6.7)	(9.1)	(9.9)	(10.7)	(11.5)	(12.2)
Net Express Bus Passenger Revenue	1.2	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9
ADA Service Passenger Revenue	0.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Total Net Passenger Revenue	145.7	160.9	163.4	166.0	179.6	193.6	197.8	202.1	206.3	210.7
Interest Revenue	7.7	7.9	8.1	8.4	8.6	8.9	9.1	9.4	9.7	10.0
Other Operating Revenue	3.7	3.9	4.1	4.2	4.3	4.4	4.6	4.8	4.9	5.1
Subtotal Non-Fare Revenue	11.4	11.8	12.2	12.6	12.9	13.3	13.8	14.2	14.6	15.1
Total Operating Revenue	157.1	172.7	175.6	178.5	192.5	207.0	211.6	216.3	220.9	225.8
EXPENSE										
Net Labor	190.2	200.6	207.8	214.8	230.2	249.4	259.0	267.6	276.5	285.8
Express Bus Service	5.8	4.9	5.0	5.2	5.3	5.5	5.6	5.8	6.0	6.2
Shuttle Service	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Purchased Transportation	1.7	1.8	2.1	2.2	2.3	2.5	2.6	2.8	2.9	3.1
ADA Paratransit Service	6.2	9.4	9.7	10.0	11.1	11.6	12.1	12.5	12.9	13.3
Traction Power	17.2	13.9	13.9	14.0	14.5	16.2	16.9	17.3	17.8	18.3
Station Power	4.3	3.5	3.5	3.5	3.6	3.9	4.0	4.1	4.2	4.3
Other Non-Labor	43.6	45.8	47.5	48.2	52.7	54.7	57.2	58.5	60.7	62.5
PERS	0.0	11.6	12.0	12.4	13.3	14.4	15.0	15.5	16.0	16.5
Total Operating Expense	269.1	291.5	301.5	310.3	333.2	358.3	372.5	384.1	397.1	410.0
OPERATING DEFICIT	(112.0)	(118.8)	(125.9)	(131.8)	(140.7)	(151.3)	(160.9)	(167.9)	(176.2)	(184.3)
FINANCIAL ASSISTANCE										
Sales Tax Proceeds (BART 75%)	128.9	146.0	154.9	164.3	174.2	184.8	196.0	208.1	220.8	234.2
Property Tax Proceeds	13.2	13.9	14.6	15.3	16.1	16.9	17.7	18.6	19.6	20.5
STA General Operating Assistance	0.0	0.3	0.6	0.7	0.9	1.0	1.1	1.4	1.5	1.6
TDA General Operating Assistance	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.5
STA & TDA Assistance for ADA Service	0.9	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6
New Dedicated ADA Funding Source	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Mateo County Service Agreement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Financial Assistance	143.6	162.2	172.0	182.2	193.1	204.6	216.9	230.1	243.9	258.5
DEBT SERVICE & ALLOCATIONS										
System Revenue Bond Debt Service	(10.0)	(18.7)	(25.7)	(39.7)	(39.7)	(39.7)	(39.7)	(39.7)	(39.7)	(39.7)
90 & 91 Sales Tax Revenue Bond Debt Service	(19.9)	(20.1)	(20.2)	(20.3)	(20.4)	(20.5)	(20.6)	(20.7)	(20.9)	(21.0)
Capital Program Allocations	0.0	(7.8)	(3.8)	0.0	(2.2)	(3.1)	(5.7)	(11.8)	(17.6)	(24.2)
PERS Reserve Account	(1.6)	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Debt Service & Allocations	(31.5)	(43.4)	(49.6)	(59.9)	(62.3)	(63.3)	(65.9)	(72.2)	(78.2)	(84.9)
ADDITIONAL COST CONTAINMENT & REVENUE ENHANCEMENTS	0.0	0.0	3.5	9.5	9.9	10.0	10.0	10.0	10.4	10.7
FINANCIAL RESULT	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMULATIVE BALANCE	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)

San Mateo County Surcharge Revenue

BART's base financial forecast for San Mateo County surcharge revenue starts out at $2.4 million in FY 98, and increases with the growth in Peninsula extension ridership to $12.2 million in FY 06. San Mateo County surcharge revenue is subtracted from net rail revenue as discussed in the preceding section, and is not included in the Total Net Passenger Revenue line item shown in Figure 4-2. As stated above, this forecast is based on the cost-revenue sharing agreement in effect prior to the renegotiated agreement executed on June 19, 1996 between the District and SamTrans for BART rail service south of Daly City Station. The financial considerations of the new cost-revenue sharing agreement are not included in this SRTP but will be included in next year's update.

In accordance with the agreement in effect prior to June 19, 1996, all San Mateo County surcharge revenue collected at stations south of Daly City is to be returned to SamTrans. As identified in Figure 1-6, this surcharge is currently 68¢ for all West Bay trips beginning or ending in San Mateo County (per the prior agreement, BART will retain all San Mateo surcharge revenue collected at Daly City Station). It is assumed that this surcharge will increase in proportion to the Board approved general 11.4% fare increase in BART fares beginning in April 1997. This SRTP forecast assumes that there will be fare surcharges at all San Mateo County BART stations including San Francisco International Airport Station.

Express Bus Passenger Revenue

Passenger revenue for express bus service was forecast on the basis of an average express bus fare. As for rail, express bus fares are assumed to increase in accordance with the adopted fare package rates which are applied to the forecast ridership for this service. Express bus passenger revenue is forecast to be $0.8 million in FY 98. This amount is 28.7% less than budgeted in FY 97. The decrease reflects elimination of portions of express bus routes which parallel new rail extensions and realignment of express bus service to new stations. By FY 06 express bus passenger revenue is forecast to be $0.9 million.

ADA Paratransit Passenger Revenue

Passenger revenue for ADA paratransit service is per current and anticipated cost-sharing agreements BART has, or will have, with Bay Area transit operators. These revenue estimates cover the period from FY 97 through FY 98, the latter of which is the first full year of ADA compliance. After FY 98, ADA passenger revenue assumes that ridership for this service will grow at approximately 1% per year. BART's forecast for ADA passenger revenue is $1.3 million in each fiscal year between FY 98 and FY 06.

Total Net Passenger Revenue

BART's total net passenger revenue, consisting of the revenue from the above sources and not including applicable surcharge revenue returned to San Mateo County, is forecast to grow from $160.9 million in FY 98 to $210.7 million in FY 06.

Operating Revenue From Sources Other Than Fares

Approximately one third of BART's non-passenger fare revenue is generated through concessions, advertising, rent and lease agreements including joint development, parking collections (currently at Lake Merritt Station only), fines and forfeitures, and miscellaneous other sources. The total

amount of revenue from these sources is forecast to grow slightly above CPI at 3.3% annually, from $3.9 million in FY 98 to $5.1 million in FY 06. The base assumption for all line items in this category of revenue is 3.0% CPI growth. Growth above CPI is due to the assumed additional joint development revenue which is anticipated to be generated within the current SRTP timeframe. The remaining two thirds of BART's non-passenger revenue is derived from interest earnings on operating fund balances. This source of revenue is forecast to generate $7.9 million in FY 98 and growing at 3.0% CPI to $10.0 million in FY 06.

Total Operating Revenue

Based on the forecasts for passenger and non-passenger revenue line items as discussed above, BART's revenue is projected to grow from $172.7 million in FY 98 to $225.8 million in FY 06. Note that this increase includes the impact of the Board approved fare increase of 11.4% which is to become effective on April 1, 1997.

Operating Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model was calibrated to the FY 96 budget with adjustments made to reflect deficit reduction measures, non-linear expense items, and anticipated revisions to unit costs.

Inputs to the cost model reflect the service levels for both rail and express bus as discussed in Chapter 3. Other expenses, such as for ADA, were added to the modeled forecast. Key inputs to the cost model include:

- Annual passenger trips
- Number of routes and route miles of track
- Number and configuration of stations (i.e., subway, at-grade, etc.)
- Peak online trains and cars
- Number of cars in the fleet
- Annual car miles
- Annual train hours
- Annual express bus hours

Additionally, the model input also includes assumptions for the consumer price index. The 1996 SRTP assumes 3.0% CPI throughout the ten-year period.

Staffing and Labor Expense

Labor expense growth reflects the increases in staff needed for expanding system operations for extensions. Staffing is a direct output of the cost model and is forecast to increase from 2,935 FTEs in FY 97 to 3,204 FTEs in FY 06. The largest increases are forecast to occur in fiscal years during which new extensions service begins.

The forecast for labor expense for FY 97 is based on growth in wages and benefits in accordance with current labor contracts. Labor expense is forecast to grow from $200.6 million in FY 98 to $285.8 million in FY 06.

Express Bus Service Expense

Expense for express bus service is based on the rates included in the current Laidlaw contract, and the service modifications discussed in Chapter 3. Beyond the upcoming contract, growth in unit expense for express bus service is assumed to be equal to 3.0% CPI. Express bus service expense is forecast to be $4.9 million in FY 98, growing to $6.2 million in FY 06.

Shuttle Bus Expense

BART's expense for shuttle bus service includes payments to the Port of Oakland in support of Oakland Air-BART, temporary shuttles as need for bus bridges due to cessation of rail service, and other temporary shuttles such as to the Alameda County Fairgrounds. This expense is forecast to grow at 3.0% CPI and amounts to approximately $0.1 million in each fiscal year from FY 98 through FY 06.

Purchased Transportation

The formula which defines the expense of providing discounts for transfers to and from MUNI is tied to sales tax growth. This expense also includes provision of free transfers to MUNI customers at Daly City Station to offset higher fares due to the San Mateo County surcharge. Purchased transportation expense is forecast to grow from $1.8 million in FY 98 to $3.1 million in FY 06.

ADA Paratransit Service Expense

Expense for ADA paratransit service assumes the current and anticipated cost-sharing agreements BART has, or will have, with other Bay Area transit operators through FY 98. In subsequent years, ADA expense is assumed to be equal to 3.5% of rail operating expense. On this basis, ADA expense is forecast to grow from $9.4 million in FY 98 to $13.3 million in FY 06.

Traction and Station Power Expense

Power expense is a model output and is forecast largely on the basis of car miles and number of stations. The basic cost per unit of power is assumed to be flat through FY 01 per a tentative five year PG&E rate freeze. Beginning in FY 02 and in subsequent years, the basic cost per unit of power is assumed to grow at 3.0% CPI. Anticipated savings from the purchase of federal power are included in BART's power expense forecast. The same growth for these savings is assumed (i.e., flat for five years, then at CPI). These savings are estimated to be $5.0 million annually from FY 98 through FY 00, $5.6 million in FY 01 (although the unit rate remains flat, the savings grow with the addition of service to Millbrae), and increasing to $6.6 million in FY 06. The resulting expense for traction and station power is forecast to be $17.4 million in FY 98, and increasing to $22.6 million in FY 06.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous expenses are forecast to increase from a forecast of $45.8 million in FY 98 to $62.5 million in FY 06.

Public Employee Retirement System Expense

As a result of favorable balances, BART has not been required to make payments to PERS since FY 89. However, BART does anticipate that it will be required to resume PERS payments in FY 98. The amount in that fiscal year is forecast to be $11.6 million, and is assumed to grow in proportion to annual labor expense increases to $16.5 million in FY 06.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $291.5 million in FY 98, growing by the combination of system expansion and 3.0% CPI to $410.0 million in FY 06.

Financial Assistance Forecast

Financial assistance to support BART operations comes from a variety of sources as was identified in the FY 97 adopted budget portion of this chapter. The forecast for financial assistance through FY 06 is discussed in the following sections:

Sales Tax Financial Assistance

Sales tax revenue is the single largest source of financial assistance the District receives for operations. The base financial forecast assumes MTC's regional projections for sales tax which has an underlying assumption of 6.1% annual growth. Accordingly, BART is forecast to receive $146.0 million in FY 98 and growing to $234.2 million in FY 06.

This sales tax forecast also assumes that San Mateo County remains a non-District member and does not contribute any of its sales tax revenue to support BART operations. In lieu of receiving sales tax financial assistance from San Mateo County, compensating payments between BART and the County are to cover the expense of providing service as specified in the cost-revenue sharing agreement in effect prior to the June 19, 1996 renegotiated agreement. [The impact of the new agreement will be included in BART's 1997 SRTP.] With San Mateo County remaining a non-District member, BART's three-county sales tax base is assumed to remain unchanged in the ten year planning period.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 5.0% annually between FY 98 through FY 06. Financial assistance from property taxes is forecast to be $13.9 million in FY 98, growing to $20.5 million in FY 06. As discussed under sales tax, San Mateo County is assumed to remain a non-District member. Accordingly, San Mateo County is not slated to contribute property tax financial assistance for BART service as do the three member counties.

STA & TDA Financial Assistance

Forecasts for STA and TDA financial assistance to be used for general operating purposes are based on MTC's projections. BART is forecast to receive $0.3 million in STA funding in FY 98, growing to $1.6 million in FY 06. The availability of TDA funds for general operating uses is

forecast by MTC to remain in the $0.3 million to $0.5 million range throughout the current SRTP period, and is shown as such in Figure 4-2.

ADA Paratransit Financial Assistance

Financial assistance for BART-funded ADA paratransit service is per current and planned cost-sharing agreements with other Bay Area transit operators through FY 98, and consists of funding through existing STA and TDA sources. After FY 98, ADA assistance through STA and TDA is assumed to grow conservatively at 1.0% annually. STA and TDA financial assistance for BART's ADA paratransit service is forecast to be $1.5 million in FY 98, growing to $1.6 million in FY 06.

San Mateo County Service Agreement

As noted above, financial considerations for BART service south of Daly City Station are in accordance with the cost-revenue sharing agreement in effect prior to the signing of the renegotiated agreement on June 19, 1996. Accordingly, financial assistance from San Mateo County will come to BART only if operating expense for providing service south of Daly City Station exceeds passenger fare revenue as determined by the formulas in that service agreement. With the ridership levels specified in the BART/San Francisco Airport Extension Draft Environmental Impact Report and at higher BART fares per Board approved levels, no San Mateo County subsidy will be required. The 1996 SRTP base financial forecast, therefore, shows no SamTrans payment to BART's operating budget. BART's 1997 SRTP will include a forecast of San Mateo County service agreement payments based on the formulas identified in the renegotiated agreement which was executed on June 19, 1996.

Total Financial Assistance

For BART's base forecast, total financial assistance from the above sources is projected to grow from $162.2 million in FY 98 to $258.5 million in FY 06.

Debt Service and Allocations

BART's base financial forecast includes fiscal obligations from operating sources for debt service and other required allocations. These are discussed as follows:

System Renovation Bond Debt Service

This debt service consists of four planned issues of bonds, the proceeds of which are slated to be used primarily for system renovation. The first series of these bonds was issued in May 1995. The second series of bonds is scheduled to be issued in mid 1997, with the third and fourth series to follow in late FY 98 and FY 99, respectively. The total debt service for these four issues is shown in Figure 4-2 on the System Renovation Debt Service line item, which grows from $18.7 million in FY 98 to $39.7 million in FY 06.

1990 and 1991 Sales Tax Revenue Bond Debt Service

Debt service for the 1990 and 1991 sales tax revenue bonds is based on the respective payment schedules for these issues. According to these schedules, this annual debt service is $20.1 million in FY 98 and remains virtually flat at this level through FY 06.

Capital Program Allocations

The base financial forecast includes a cumulative allocation of $76.0 million to support the District's capital program fiscal needs over the ten year planning period (refer to BART's 1996 CIP). Without this allocation from operating sources, critically needed projects would have to be delayed.

PERS Reserve Account Allocations

Figure 4-2 identifies a special PERS Reserve Account which was established in FY 96 as part of the strategy to minimize the impact of resumption of PERS payments in FY 98. This reserve will receive allocations in the amount of $1.6 million from operating budget sources in each of FY 96 and FY 97, with a $3.2 million payout from this account in FY 98. These allocations effectively reduce FY 98's $11.6 million expense liability shown on the PERS expense line item in Figure 4-2 to $8.4 million. No additional allocations to this PERS Reserve Account in subsequent years are assumed.

Total Debt Service and Allocations

Based on the above, BART's total debt service and allocations are forecast to be $43.4 million in FY 98, increasing to $84.9 million in FY 06.

Additional Cost Containment and Revenue Enhancements

The base financial forecast assumes BART will continue to prudently manage its operations during the current ten year SRTP planning period, consistent with past practices.

The District employs a conservative approach to planning, budgeting, and budget management. Inherent in this process are ongoing efforts to evaluate all line-item expenses to identify opportunities to contain costs and increase productivity. This management approach has enabled BART to make optimal use of funds and to continue to improve the system. This fact is underscored in Figure 4-3 which identifies actual fiscal year expense for fiscal years 1986 through 1996. Actuals are compared to the corresponding expense identified in each fiscal year's adopted budget. This comparison also includes the forecasts of expense identified in the SRTPs which were published five years earlier.

As Figure 4-3 indicates, the SRTP expense forecasts for five years out have typically been substantially higher than actual expense. A large part of this variance lies in the assumptions which were made in each SRTP with regard to extensions service starts and inflation rates. However, a substantial portion of the variance is also attributable to ongoing diligent efforts to reduce unit costs and improve productivity. Recent cost containment actions taken in the past three years include reducing staff headcount (saving approximately $6 million annually), affordable and equitable labor contract agreements, realizing lower power rates (saving over $1 million annually), streamlining and modifying express bus service (saving approximately $0.3 million annually), and implementing strategies to lessen medical and workers' compensation costs (saving approximately $3 million annually). In addition to these actions are employee suggestions, many of which have led to revisions in work rules and/or procedures. The District

Figure 4 - 3

ANNUAL BUDGET & SRTP FORECASTS vs ACTUAL EXPENSE

Variances Reflect Efforts to Contain and/or Reduce Costs

As Well as Changes in Assumptions for Extension Start Dates, Fleet Size, and CPI

Dollar Figures in Millions

Fiscal Year	Actual Expense	BUDGET, 1-YEAR LOOK		SRTP, 5-YEAR LOOK	
		Forecast	% vs Actual	Forecast	% vs Actual
86	160.9	163.9	1.9%	185.7	15.4%
87	162.2	174.5	7.6%	198.0	22.1%
88	167.8	171.8	2.4%	205.4	22.4%
89	172.2	174.6	1.4%	224.9	30.6%
90	193.0	193.3	0.2%	220.4	14.2%
91	206.7	208.2	0.7%	236.8	14.6%
92	213.7	221.5	3.6%	223.7	4.7%
93	210.4	213.0	1.2%	217.0	3.1%
94	217.4	220.3	1.3%	233.6	7.5%
95	218.3	227.0	4.0%	256.0	17.3%
96	244.3	244.1	-0.1%	297.1	21.6%
Average	---	---	**2.1%**	---	**15.3%**

Note: The FY 86 actual expense, for example, is compared to the corresponding annual budget which is adopted one year earlier. FY 86 actual expense, in this example, is also compared to the SRTP forecast formulated five years earlier, in 1981.

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has benefited from this direct employee involvement, realizing additional cost savings and improved performance and service.

As indicated in Figure 4-3, the District has a record of consistently spending substantially less in any given fiscal year relative to amounts forecast five years earlier for the same fiscal year. It is reasonable to assume, as this base forecast does, that this trend will continue. If the past holds any lessons for the future, it is that the District will continue to evaluate all aspects of how it conducts business, both at the macro and micro levels; and that future implementation of cost containment measures will occur as BART continues to prudently manage its operations. With a ten year $3.43 billion program per this SRTP's base forecast, every 1% savings translates to a $34.0 million reduction in total program costs over the ten years.

Cost containment is a significant aspect of how BART has provided and will continue to provide sufficient resources to meet its financial needs while improving and expanding service. A second important aspect of BART's overall financial strategy is revenue enhancement.

Consistent with past efforts, the District will continue to pursue opportunities to procure state and federal financial assistance. The District will also continue to develop and implement programs to generate additional revenues from sources other than passenger fares.

BART is also pursuing several revenue enhancement programs including joint development projects, lease agreements for fiber optics facilities, and special joint advertising and promotions programs. Should the above cost containment and revenue enhancement programs prove insufficient to fund a deficit in any given year, BART is prepared, as it has been in the past, to consider modest fare increases as part of the solution.

Based on past efforts and others described above, the base financial forecast assumes a net yield resulting from a combination of cost containment measures and/or increased financial assistance or revenues of $3.5 million in FY 99. This yield is forecast to increase to approximately $10 million annually between FY 00 and FY 06. On average, the yield from cost containment, and/or revenue enhancement efforts is estimated to be approximately 2% of the total ten year program. This estimate is conservative and is consistent with the District's history of prudent financial management.

Financial Performance and Indicators

As indicated in Figure 4-2, BART's base financial forecast is balanced throughout the SRTP planning horizon. As identified in Figure 4-4, financial performance is stable over the period.

Farebox Ratio

The farebox ratio for rail operations is forecast to start out at 57.7% in FY 98, and declines to 56.0% in FY 00 reflecting the phasing of ridership and revenue for the San Francisco Airport extension. With the buildup of ridership for this extension, the rail farebox ratio is forecast to increase slightly and peak in FY 02 to 56.6%, then decrease slowly to 53.8% by FY 06.

Figure 4 - 4

1996 SRTP
BASE FINANCIAL FORECAST
Financial Performance Indicators

		Adopted Budget FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06
Farebox Ratios:	Rail	56.3%	57.7%	56.7%	56.0%	56.5%	56.6%	55.6%	55.1%	54.4%	53.8%
	Express Bus	20.1%	17.2%	16.7%	16.3%	15.9%	15.6%	15.2%	14.8%	14.5%	14.1%
	ADA	10.9%	13.3%	12.9%	12.6%	11.3%	10.9%	10.4%	10.1%	9.8%	9.6%
	System	54.1%	55.2%	54.2%	53.5%	53.9%	54.1%	53.1%	52.6%	51.9%	51.4%
System Operating Ratio		58.4%	59.2%	58.2%	57.5%	57.8%	57.8%	56.8%	56.3%	55.6%	55.1%
Rail Cost Per Passenger Mile		26.4 ¢	26.5 ¢	26.9 ¢	27.1 ¢	26.4 ¢	25.9 ¢	26.2 ¢	26.3 ¢	26.4 ¢	26.5 ¢

g:\fin\srtp\96finance\srtpbase.xls

Express bus fares are slated to return 17.2% of this mode's operating expense in FY 98, decreasing to 14.1% in FY 06. Similarly, ADA passenger revenue is forecast to cover 13.3% of expense in FY 98, moving down to 9.6% in FY 06. The systemwide farebox ratio is forecast to be 55.2% in FY 98, decreasing slowly to 51.4% in FY 06.

Operating Ratio

The system operating ratio is forecast to be 59.2% in FY 98, decreasing slowly to 55.1% in FY 06.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile is projected to be 26.5¢ in FY 98. Longer extension trips in later years help BART to maintain this level of productivity throughout the planning period. Rail cost per passenger mile in FY 06 is also 26.5¢.

ALTERNATIVE FUTURES

As the District's 24 year operating record shows, BART has been successful in adjusting and responding to a wide range of fiscal changes, demands which have been precipitated over the years by anticipated as well as unanticipated events and conditions. The SRTP has and continues to play a vital role in this planning process by identifying possibilities and concerns beyond the immediate budget year which may require management attention and eventual action. In this respect, the SRTP has acted as a kind of early warning system, effectively alerting management and the Board to emerging opportunities and issues.

Consistent with past practice, this SRTP looks at conditions which might cause variances in key assumptions used in the base forecast. The base forecast is particularly sensitive to changes in ridership projections which directly impact revenues, and to projections for sales tax receipts which are the single largest component of the financial assistance the District receives for operations.

As noted in Chapter 3, FY 97 systemwide ridership is budgeted at 254,120 average weekday trips. This forecast represents conservative growth for the core system, and increasing buildup of patronage at new stations slated to open in FY 97. Currently, BART ridership is running 4.7% above budget. It is estimated that the recent closure and demolition of the Central Freeway in San Francisco has added approximately 8,000 new trips to the system each weekday. The tentative schedule to open the lower deck of the freeway by the end of 1996 may be delayed pending development of longer range plans to provide an adequate solution for crossing Market Street. At best, the interim lower freeway deck will only be capable of carrying a fraction of the prior double-deck roadway. Should BART retain just one half the current 8,000 new weekday trips following the opening of the interim lower Central Freeway deck, approximately $3 million in additional passenger revenue would be generated in FY 97 and approximately $2 million could be generated during each subsequent year until the full freeway capacity is restored.

An additional consideration with regard to higher ridership also includes the four-to-five year earthquake retrofit program for the Bay Bridge which is scheduled to begin in mid 1997. The impact of this project on BART ridership is estimated to be greater than for the Central Freeway.

A diversion of 10,000 weekday trips from the Bay Bridge to BART would translate to a gain of approximately $6 million to the District in new passenger revenue annually. Assuming this diversion lasts for the duration of the four-to-five year retrofit program (i.e., starting at the beginning of FY 98 and lasting through FY 02), BART could realize between $24 million to $30 million in passenger revenue in addition to that generated for the base financial forecast.

The positive impacts of higher than anticipated ridership could, however, be offset by lower than anticipated sales tax returns. As noted earlier in this chapter, the base financial forecast uses MTC's projections for financial assistance including sales tax. MTC assumes that sales tax receipts will grow by 6.1% per year during the ten year SRTP planning horizon. For planning purposes, it seems prudent to look at how BART's financial needs might change given lower sales tax growth. If sales tax receipts were to grow at 4.8% rather than the 6.1% assumed by MTC, BART would need to institute cost containment or revenue enhancement programs yielding $5.7 million more than the amount assumed in the base financial forecast for FY 99, and an average of $23 million more per year for each remaining year covered by the SRTP. As noted above, ridership gains during the Central Freeway demolition and the Bay Bridge retrofit program could provide additional revenues to meet at least part of this need. However, if sales tax receipts are lower than MTC has projected, BART may have to pursue more stringent cost containment measures and more aggressive revenue enhancement programs than the level assumed in the base forecast. This scenario, while not a cause for alarm, does point to the need for BART: to continue to productively and efficiently manage its operations; to pursue all possible opportunities to increase state and federal financial assistance, and to enhance revenues; and to continuously monitor and update both revenue and expense projections annually as part of its ongoing planning process.

CONCLUDING REMARKS

As identified in this SRTP, BART's future includes substantial changes and capital needs which will be addressed over the course of the next decade. From an operations perspective, BART will continue to implement system renovation and service expansion programs. The District is committed to provide uninterrupted high-quality service through this transition period. This commitment can and will be achieved through continued planning and evaluation, timely decision making, and effective and efficient management. These keys to success will enable BART to continue to provide safe, reliable, and efficient transportation well into the next century.

San Francisco Bay Area Rapid Transit District

SHORT RANGE TRANSIT PLAN

July 1997 Through June 2008
Fiscal Years 1998 - 2008

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June 3, 1997

BART

BAY AREA RAPID TRANSIT DISTRICT
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P.O. Box 12688
Oakland, CA 94604-2688
Telephone (510) 464-6000

June 27, 1997

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6TH DISTRICT

WILLIE B. KENNEDY
7TH DISTRICT

JAMES FANG
8TH DISTRICT

TOM RADULOVICH
9TH DISTRICT

Enclosed for your review and comment are drafts of BART's FY98 Short Range Transit Plan (SRTP) and draft FY98 Capital Improvement Program (CIP).

As part of the process of finalizing these documents, a public meeting is scheduled to be conducted at the August 14, 1997 BART Board of Directors meeting. This meeting will begin at 9:00 a.m. in the BART Board Room at 800 Madison Street, Oakland (located directly above Lake Merritt Station). At that time, verbal comments on the draft SRTP and CIP will be accepted.

Written comments for both documents may be submitted by August 14, 1997 to the following addresses:

Draft FY98 SRTP Comments
BART, MSQ-306
Financial Planning Division
800 Madison Street
Oakland, CA 94607

Draft FY98 CIP Comments
BART, MSQ-302
Capital Budgets Division
800 Madison Street
Oakland, CA 94607

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SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

SHORT RANGE TRANSIT PLAN

FISCAL YEARS 1998 - 2008

The preparation of this report has been financed in part through a grant from the United States Department of Transportation, Federal Transit Administration under the Federal Transit Laws, 49 U.S.C. Chapter 53 and passed through the Metropolitan Transportation Commission. This report has been prepared in conformance with MTC guidelines for Short Range Transit Plans.

The contents of this report reflect the views of BART which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation, and does not preclude future labor contract negotiations or future BART Board deliberations regarding fares.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects.

This report was researched and prepared by:

Martin Birkenthal, Pamela Herhold, and Robert Mitroff

Financial Planning Division
Department of Operating Budgets & Analysis
San Francisco Bay Area Rapid Transit District

Draft
June 3, 1997

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

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San Francisco Bay Area Rapid Transit District
Department of Operating Budgets & Analysis
800 Madison Street (MSQ-3)
Oakland, California 94604

Chapter 1

BART ORGANIZATION

&

SYSTEM OVERVIEW

The San Francisco Bay Area Rapid Transit District was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. Voter approval, in 1962, of a $792 million general obligation bond issue in San Francisco, Alameda, and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71 mile system. BART was the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology. The District is governed by a Board of nine publicly elected Directors, each representing the voters in one of nine election districts within the three-county District. BART's FY98 budgeted workforce includes 3,381.5 full-time equivalent positions, 3,009.5 of which are for operations and 372.0 for capital projects. BART's administrative departments are presented in the organization chart in Figure 1-1. The goals of the District are summarized in Figure 1-2.

MAJOR COMPONENTS OF BART'S CAPITAL PLANT

The 1962 general obligation bond issue provided funding for BART's core system, which opened for service on September 11, 1972. On opening day, key components of the core system included 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the fleet to date), 33 stations, and an administration and operations control center. Capital improvements made over the past 25 years have added to this inventory base. These additions include 230 more cars, the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland, a new central train control computer, and six additional stations. Embarcadero station opened for service in May 1976, North Concord/Martinez in December 1995, Colma in February 1996, Pittsburg/Bay Point in December 1996, and both Castro Valley and Dublin/Pleasanton in May 1997. A map of the current system is shown in Figure 1-3.

Track and Right-of-Way

BART is a third-rail, 1,000 volt DC, electrically powered railway. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 93 miles of continuously welded, double-mainline, 66 inch gauge track. A special track geometric vehicle is used to analyze the running rails and electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and a smooth operating surface. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards

Both planned preventative maintenance and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward, and Richmond), and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward shop also performs accident damage, component and heavy repairs. A fifth maintenance facility, located between Lake Merritt and Fruitvale Stations (Oakland Shops), provides support to buildings and grounds and equipment other than rail vehicles.

Figure 1 -1

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

FISCAL YEAR 98 BUDGET

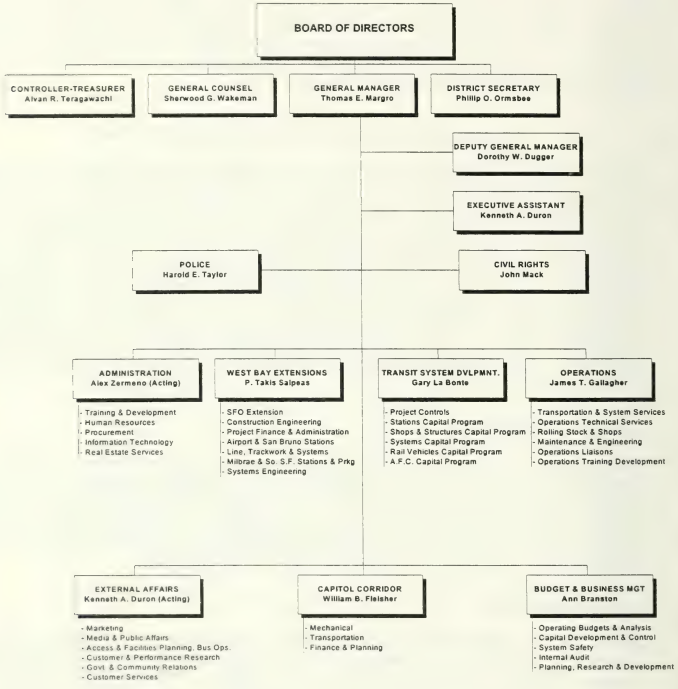


Figure 1 - 2

BART GOALS

1. Provide safe, reliable, high-quality and economical transportation service to the Bay Area community.

2. Deliver user-friendly services to all our customers.

3. Empower employees to function as owners of the BART organization.

4. Provide an environment free of impediments to opportunities for employees and disadvantaged business enterprises, and one which encourages cooperation and develops an organizational team of highly motivated staff.

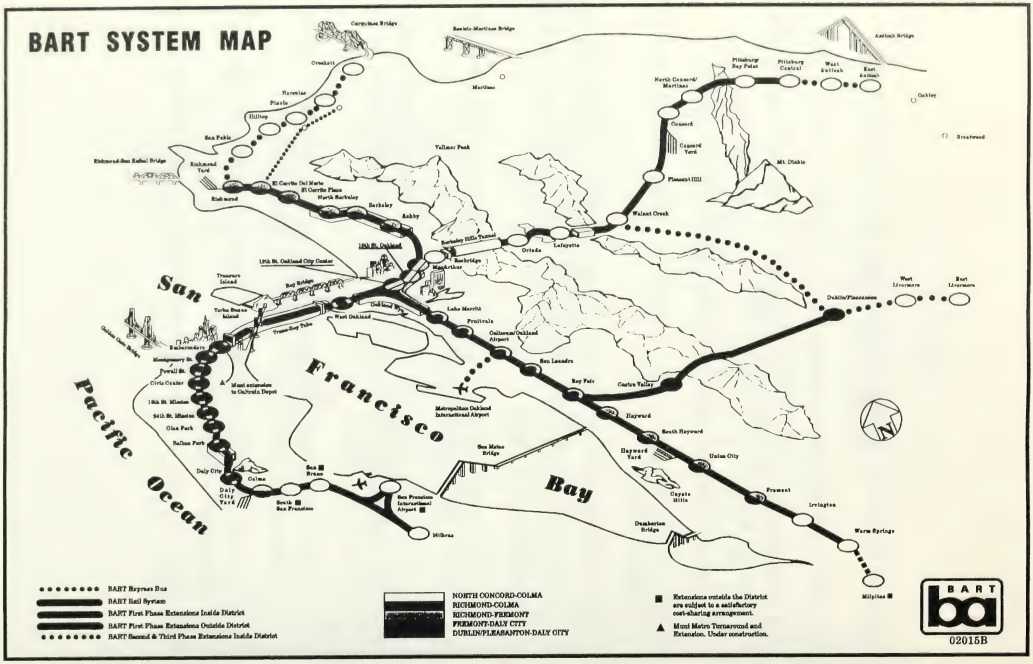
5. Develop BART services and facilities to expand District markets and capture new revenue sources.

6. Secure and manage the funds necessary to maintain and expand the system and to operate BART according to fiscally sound business practices.

7. Take the leadership role in integrating various features of regional transportation systems in policy, finance, and operations.

8. Build constituencies at all levels of government to support the BART organization and its programs.

Figure 1 - 3


BART SYSTEM MAP
San Francisco Bay
Pacific Ocean
Carquinez Bridge
Benicia-Martinez Bridge
Antioch Bridge
Martinez
Crockett
Hercules
Pinole
Hilltop
San Pablo
Richmond-San Rafael Bridge
Richmond
El Cerrito Del Norte
El Cerrito Plaza
North Berkeley
Berkeley
Ashby
Richmond Yard
Yellow Peak
Pittsburg/Bay Point
Pittsburg Central
West Antioch
East Antioch
Oakley
Brentwood
North Concord/Martinez
Concord
Concord Yard
Mt. Diablo
Pleasant Hill
Walnut Creek
Lafayette
Orinda
Berkeley Hills Tunnel
19th St. Oakland
19th St. Oakland City Center
MacArthur
Treasure Island
Bay Bridge
Yerba Buena Island
Oakland Wye
Lake Merritt
Fruitvale
Coliseum/Oakland Airport
San Leandro
Bay Fair
Castro Valley
Dublin/Pleasanton
West Livermore
East Livermore
Embarcadero
Golden Gate Bridge
Transbay Tube
West Oakland
Montgomery St.
Powell St.
Civic Center
Muni extension to Oakland Depot
19th St. Mission
24th St. Mission
Glen Park
Balboa Park
Daly City
Colma
Daly City Yard
South San Francisco
San Bruno
San Francisco International Airport
San Mateo Bridge
Metropolitan Oakland International Airport
Hayward
South Hayward
Hayward Yard
Union City
Fremont
Irvington
Warm Springs
Milpitas
Dumbarton Bridge
Ogata Hills
BART Express Bus
BART Rail System
BART First Phase Extensions Inside District
BART First Phase Extensions Outside District
BART Second & Third Phase Extensions Inside District
NORTH CONCORD-COLMA
RICHMOND-COLMA
RICHMOND-FREMONT
FREMONT-DALY CITY
DUBLIN/PLEASANTON-DALY CITY
Extensions outside the District are subject to a satisfactory cost-sharing arrangement.
Muni Metro Turnaround and Extension. Under construction.
BART
02015B

Revenue Vehicles

BART's current 669-car fleet consists of three types of vehicles: 135 control-equipped A-cars, 304 non-control B-cars, and 230 C-cars (the latter type consist of 150 C1s and 80 C2s, of which 18 are currently control equipped). A and B-cars are BART's first generation vehicles, manufactured between 1971 and 1975. C-cars constitute BART's second and third generation fleet. C1-cars were manufactured between 1987 and 1990, and newer C2-cars in 1995 and 1996. Control equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 by 10.5 feet, and can be used as lead, mid-train, or trail vehicles. Trains are operated from the lead A or C-car. Train movements are automatically controlled by computers located along the right-of-way. System train supervision is provided by BART's train control computer at the Operations Control Center, located in the Lake Merritt Administration Building in downtown Oakland. Train operators aboard each train can override the automatic system should the need arise.

Permissible train lengths range from three to ten cars. [The three-car minimum train length is a California Public Utilities Commission requirement.] The ten-car maximum length corresponds to station platform lengths. Resulting capacity is between 192 and 720 seated passengers for three and ten-car trains, respectively. Vehicle performance specifications include a maximum 80 mile per hour speed. Revenue service is based on a 70 mile per hour maximum speed. The systemwide average speed for revenue service, including stations stops, is 36 miles per hour.

Stations and Parking

The system consists of 39 stations, 14 of which are in subway, 13 elevated, and 12 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. On average, stations are spaced between one half to one mile apart within and adjacent to San Francisco, Oakland, and Berkeley downtown areas, and two to ten miles apart in suburban areas.

Stations are accessed by stairways, elevators and escalators which link various levels to streets, connecting local transit, and parking areas. Automatic fare collection equipment is located in each station, to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information with regard to train schedules, local area destinations, connecting transit, and other information to assist BART riders. A public address system linked to BART's Operations Control Center is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Depending upon location, station access facilities include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks, and parking. Parking is an important feature at suburban stations where a majority of BART riders arrive by auto. BART's station parking inventory (Figure 1-4) consists of 41,984 free spaces at 28 stations and 246 spaces at Lake Merritt Station at a daily charge of 25¢.

Administration/Operations Control Center

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland, above Lake Merritt Station. This facility also houses BART's Operation's Control Center (OCC) and central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer at OCC provides overall systemwide supervision of train movements. BART's OCC is an around-the-clock operation. Train controllers and other BART certified personnel located in OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between OCC and all train operators. A telephone system provides voice communication to station agents. Remote cameras located at key points allow OCC personnel to visually monitor train movements and activities in and around stations.

BART RAIL SERVICE DESCRIPTION

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. Closing times for individual stations are coordinated with the schedule for the last train departure beginning approximately at midnight. Figure 1-5 summarizes the rail service provided by route on weekdays and weekends. Depending upon demand, holiday rail service is either operated on a full or modified weekday schedule, or Saturday or Sunday schedule. BART service is also coordinated with major Bay Area events. Depending upon demand, additional rail service for special events is provided by either lengthening regularly scheduled trains, placing additional trains in service, or providing revenue operations at times when the system is normally closed (e.g., early-Sunday morning opening for the annual Bay-to-Breakers footrace in San Francisco).

EXPRESS BUS SERVICE DESCRIPTION

Effective July 1, 1997, BART will transition most Express Bus service to local public transit operators. On an interim basis, BART will contract to provide express bus service on three routes along the Interstate-80 corridor in Contra Costa County. Express bus route *J* operates daily between El Cerrito del Norte Station and serves Pinole, Hercules, and Rodeo. Additional weekday commute hour service along this same general route is provided by routes *JX* and *Q*.

Figure 1 - 4

BART PARKING SPACE INVENTORY

PARKING EXPANSION PLANS AT EXISTING & FUTURE STATIONS

EXISTING STATIONS	SPACES AS OF MAY 97	PLANNED FOR FY98 - FY08	TOTAL PROJECTED BY FY08
SAN FRANCISCO LINE:			
Colma	2,237	0	2,237
Daly City	1,990	0	1,990
Glen Park	54	0	54
West Oakland (a)	419	0	419
Subtotal	**4,700**	**0**	**4,700**
FREMONT LINE:			
Fremont	2,494	0	2,494
Union City (b)	1,180	0	1,180
South Hayward	1,307	0	1,307
Hayward	1,896	0	1,896
Bay Fair	1,822	0	1,822
San Leandro	1,332	0	1,332
Coliseum	1,084	0	1,084
Fruitvale (b)	1,103	0	1,103
Lake Merritt	246	0	246
Subtotal	**12,464**	**0**	**12,464**
RICHMOND LINE:			
Richmond	799	0	799
El Cerrito del Norte	2,518	0	2,518
El Cerrito Plaza (c)	766	500	1,266
North Berkeley	870	0	870
Ashby	626	0	626
MacArthur	608	0	608
Subtotal	**6,187**	**500**	**6,687**
CONCORD LINE:			
Pittsburg/Bay Point	2,030	0	2,030
North Concord/Martinez	1,939	0	1,939
Concord	2,513	0	2,513
Pleasant Hill (d)	2,869	0	2,869
Walnut Creek	1,966	0	1,966
Lafayette	1,521	0	1,521
Orinda	1,411	0	1,411
Rockridge (b)	886	0	886
Subtotal	**15,135**	**0**	**15,135**
DUBLIN LINE:			
Castro Valley	1,125	0	1,125
Dublin/Pleasanton	2,619	0	2,619
Subtotal	**3,744**	**0**	**3,744**
EXISTING STATIONS TOTAL	**42,230**	**500**	**42,730**
WEST BAY EXTENSION STATIONS:			
South San Francisco	0	1,337	1,337
San Bruno	0	1,000	1,000
San Francisco Airport	0	0	0
Millbrae	0	3,000	3,000
EXTENSION STATIONS TOTAL	**0**	**5,337**	**5,337**
SYSTEM GRAND TOTAL	**42,230**	**5,837**	**48,067**

(a) A future parking project is subject to reavaluation and identification of a funding source.

(b) No plans are identified for Union City, Fruitvale, and Rockridge stations.

(c) Contra Costa County Measure C provides funding for parking expansion in the City of El Cerrito. BART and the City are studying a possible future 500-space parking project at the El Cerrito Plaza Station.

(d) Improved parking at Pleasant Hill Station added 581 temporary spaces as a construction mitigation measure during I-680/24 reconstruction. This temporary parking is not reflected in the station total for Pleasant Hill.

Figure 1 - 5

BART RAIL HEADWAYS AND HOURS OF SERVICE

Effective May 1997

	TRANSBAY ROUTES				EAST BAY ROUTE	DOWNTOWN SAN FRANCISCO
	Pittsburg/Bay Point-Colma	Fremont-Daly City	Dublin/Pleasanton-Daly City	Richmond-Daly City (a)	Fremont-Richmond	City Center Segment
***HEADWAYS** (minutes)*						
WEEKDAY						
Peak Hour	5.0	15.0	15.0	15.0	15.0	2.7
Midday	15.0	15.0	15.0	15.0	15.0	3.8
Night	20.0	(b)	20.0	(b)	20.0	10.0
SATURDAY						
Daytime	20.0	20.0	20.0	20.0	20.0	5.0
Night	20.0	(b)	20.0	(b)	20.0	10.0
SUNDAY						
All Day	20.0	(b)	20.0	(b)	20.0	10.0
***SERVICE HOURS** (time)*						
WEEKDAY						
First Train leaves	03:59	05:05 (c)	03:58	04:56 (c)	04:00	04:20
Last Train arrives	01:21	21:23 (c)	01:26	21:01 (c)	01:27	01:07
SATURDAY						
First Train leaves	06:00	08:44 (c)	06:03	07:46 (c)	05:56	06:00
Last Train arrives	01:21	20:29 (c)	01:26	20:09 (c)	01:27	01:07
SUNDAY						
First Train leaves	08:00	(b)	07:57	(b)	07:56	08:16
Last Train arrives	01:21	(b)	01:26	(b)	01:27	01:07

(a) Peak period service on this route is extended to Colma.
(b) Route not in service during identified time period. Travel is accommodated on other routes with one transfer in downtown Oakland.
(c) Earlier and/or later service is available on other routes. Travel is accommodated on other routes with one transfer in downtown Oakland.

ADA PARATRANSIT SERVICE DESCRIPTION

The District's Americans With Disabilities Act (ADA) paratransit program allows eligible persons to make a reservation for transportation between one and seven days in advance. Standing orders for routine travel (i.e., same origin, destination, day of week, pickup time, etc.) are also accepted. ADA dedicated sedans/vans and/or taxis are used to provide this service for most trips. Transbay ADA service is currently available through the East Bay Paratransit Consortium for travel to and from San Francisco. Regional ADA paratransit service is available throughout BART's service area and is coordinated with connecting local transit operators.

BART FARE COMPONENTS AND TICKET PRICES

The individual components of BART's fare structure are summarized in Figure 1-6, with station-to-station fares shown in Figure 1-7. The following presents information on BART fares for rail, Express Bus, and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula. Surcharges are applied for Transbay travel and trips originating from or destined to Daly City and Colma Stations, which are located in San Mateo County (San Mateo County is not a full participating member of the BART District). An additional *speed-premium* adjustment is made to fares, based on the scheduled speed of a trip versus the systemwide average. BART's base rail fare is currently $1.10 for the shortest trips within downtowns and other local areas. As shown in Figure 1-7, the highest rail fare is $4.70 for the 45-mile Transbay trip between Colma and Pittsburg/Bay Point.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 can ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may purchase a $32 or a $48 high-value ticket for $30 or $45, respectively, a savings of 6.25%.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/MUNI FastPass allows unlimited use of San Francisco Municipal Railway services and BART within the City of San Francisco. The price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART, BART Express Bus, and other Bay Area transit systems which serve BART rail stations.

Fares for BART Express Bus and ADA paratransit services are also shown in Figure 1-6. ADA fares for paratransit service funded through the joint BART/AC Transit *East Bay Paratransit Consortium* are distance based, and range from $2.00 for trips less than eight miles to a maximum of $6.00 for trips of up to 24 miles. As of July 1, 1997, the fares will increase to $2.25 to a maximum of $6.75, respectively.

Figure 1 - 6

BART FARE COMPONENTS AND TICKET PRICES

Effective April 1, 1997

TRIP LENGTH:	Up to 6 miles		$1.10
	Between 6 and 14 miles [1]		$1.34 + 9.9¢/mile
	Over 14 miles		$2.13 + 5.9¢/mile
SURCHARGES:	Transbay		66¢
	San Mateo County [2]		76¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time		±3.7¢/minute
RESULTING FARES:	Range [3]		$1.10 to $4.70
	Average fare (before discounts) [4]		$2.10
	Average fare paid (after discounts) [4]		$1.89
RAIL FARE	Children under 5		Free
DISCOUNTS & SPECIAL FARES: [5] (high-value tickets)	Children 5 through 12 (75% discount)		$4.00 ($16 value)
	Persons 65 and over (75% discount)		$4.00 ($16 value)
	Persons with qualifying disability (75% disc.)		$4.00 ($16 value)
	Regular adult (6.25% discount)		$30 & $45 ($32 & $48 value)
	Excursion (entry/exit, same station) [6]		$3.80
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [7]		$28 to $61 (8 denominations)
MONTHLY RAIL/ SF MUNI PASS: [8]	Fast Pass -- (unlimited monthly use of BART and MUNI within San Francisco)		$35
ONE-WAY TRANSFERS TO: [9] (issued at rail stations)	BART Express Bus		60¢ ($1.20 base fare)
	CCCTA		50¢ ($1.00 base fare)
	Union City Transit		25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM: [9] (issued at rail stations)	AC Transit:	From BART	$1.00 ($1.25 base fare)
		To BART	$1.00 ($1.25 base fare)
	SF MUNI, within SF:	From BART	$1.00 ($1.00 base fare)
		To BART	Free ($1.00 base fare)
	SF MUNI, Daly City Station:	From BART	Free ($1.00 base fare)
		To BART	Free ($1.00 base fare)
BART EXPRESS BUS: (1 ZONE/2 ZONE)	Children under 5		Free
	Children 5 through 12		20¢/45¢
	Regular Adult		$1.10/$1.65
	Persons 65 and over		20¢/45¢
	Persons with a qualifying disability		20¢/45¢
ADA SERVICE:	East Bay Paratransit Consortium [10]		$2.00 to $6.00
	BART/MUNI Cost-Sharing Agreement [11]		80¢ to 90¢ approximately
	All other areas		$1.00 to $6.00 approximately

Figure 1 - 6

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (North Concord-Orinda, Fremont-Bay Fair, Richmond-Ashby, Dublin/Pleasanton-Bay Fair) priced at fare indicated for trips under 6 miles.

2. The San Mateo County surcharge does not apply to Transbay trips.

3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The range of fares is based on the adopted fare resolution for the fare increase effective April 1, 1997. Prior fare increases occurred on April 1, 1996, April 1, 1995, January 1, 1986, September 8, 1982, June 30, 1980, and November 3, 1975.

4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco MUNI FastPass. The figures shown are for FY97 through March 31, 1997.

5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program. In-station sales booths at Montgomery, Embarcadero, Powell, Colma, Walnut Creek, and North Concord/Martinez also sell a variety of ticket types. BART's Pass Office sells all ticket types via mail order.

6. There is a three-hour limit on the excursion fare.

7. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides on BART Express Bus and seven other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, MUNI, SamTrans, Contra Costa County Transit Authority, Santa Clara Valley Transportation Authority, Union City Transit, Dumbarton Express, and West CAT. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.

8. BART began accepting the regular adult MUNI FastPass for BART travel within San Francisco on April 1, 1983 (discounted FastPasses are not valid on BART). FastPasses are sold at stores, places of employment, and other outlets in San Francisco.

9. Except for the two-part $1.00 (round trip) MUNI transfers issued in San Francisco stations, all other one-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare. The fare savings with the transfer is equal to the base fare less the additional fare paid to the connecting transit system.

10. BART and AC Transit have formed the East Bay Paratransit Consortium, which provides service to eligible BART customers in service areas that overlap with AC Transit.

11. BART has executed a cost-sharing agreement with San Francisco which permits eligible BART customers to use paratransit service provided by MUNI for travel within the City and County of San Francisco. Taxi service is provided to customers at 10% of the meter rate, averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00.

Figure 1 - 7

BART INTER-STATION FARES

Effective April 1, 1997

Chapter 2

RIDERSHIP FORECAST

and

PLANNED SERVICE

BART's ridership forecast is the key driver in the formulation of service plans and the capital program required to support the necessary operating plant and equipment. Accordingly, this chapter begins with a discussion of factors which influence ridership. Within this context, the ridership forecast for the current SRTP period is presented. This is followed by the Rail Service Plan which includes a description of the rail service plans developed to accommodate core system and extensions ridership growth. The last two sections of this chapter describe service plans for BART Express Bus and ADA paratransit service.

RAIL RIDERSHIP FORECAST ASSUMPTIONS

Key factors used to forecast ridership include regional growth, BART fares, load factors, the quality of rail service provided, changes in competing markets (e.g., auto travel times and costs), the schedule for starting service on extensions, and subsequent extension ridership phasing. The forecast also incorporates projected patronage for the San Francisco Airport extension, as detailed in the June 1996 Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/FEIS).

Regional Growth Assumptions

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are based upon the Association of Bay Area Government's (ABAG) population and employment forecasts, as published in its *Projections '96 Update*, and the Metropolitan Transportation Commission's (MTC) regional travel model. Ridership propensity, measured in transit trips per demographic unit of population and employment, is established for current data and applied to station area projections.

BART Fares

The SRTP ridership forecast projects annual and average weekday trips for each fiscal year in the current SRTP planning period. This forecast reflects the impact of the fare package adopted by the BART Board in January 1995. This includes the following key components, all of which have been implemented:

- 15.0% fare increase, effective April 1, 1995.
- Reduction in discounts from 90% to 75%, effective April 1, 1995.
- 13.0% fare increase, effective April 1, 1996.
- 11.4% fare increase, effective April 1, 1997.
- No fare increase in FY98.

Load Factors

The service plans presented in this SRTP provide sufficient peak period capacity to maintain actual current load factor conditions for all peak period trains throughout the ten

year planning horizon. Reflected is an operational load factor target such that, where possible, peak hour transbay load factors average 1.35 or less. Given BART's practice of modular train sizing, this level is equivalent to or slightly better than current service load factors in the peak hours. As planned, load factors for all trains, on average during the three-hour peak period, are expected to meet the District load factor objective of 1.15. During the peak of the peak hour, some trains will operate at higher load factors, as they do now, due to system throughput constraints. Offpeak load factors are targeted to average 1.00 or less.

Travel Times

The faster run times made possible as of June 1992 by the System Throughput Enhancement Program (STEP) have been carried forward through FY02. In FY02, Advanced Automatic Train Control (AATC) is assumed to be operational on the M-Line (Daly City through West Oakland) and upper A-Line (Bay Fair through West Oakland) of the system. Degradation of auto travel times is also assumed, reflecting increased highway congestion, as growth in demand outstrips programmed highway improvements. This assumption is consistent with the MTC travel model.

Extensions Service

This SRTP's ridership and financial forecasts are based on the information available in May 1997, which includes the opening of three new rail stations in FY97: Pittsburg/Bay Point Station on December 7, 1996 and Castro Valley and Dublin/Pleasanton stations on May 10, 1997. The first two extension stations, North Concord/Martinez and Colma, have been in operation since FY96. The San Francisco Airport extension of rail service south of Colma Station, consistent with the adopted project, is assumed to open in FY02.

The FY98 SRTP ridership and operating financial forecasts reflect only the above rail extensions, and do not include operations of any other rail facilities or services identified in BART's Capital Improvement Program. Those projects include the West Dublin/Pleasanton Station, Warm Springs Extension, West Contra Costa County Extension, extensions to points further east in Contra Costa and Alameda counties. The District will continue to seek funding for those projects, and will include corresponding operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

It is assumed that the relationship between the supply and demand for BART station parking remains relatively unchanged. Currently, the 39 BART stations have 42,230 parking spaces. As identified in Figure 1-4, BART plans call for adding 5,837 parking spaces with the opening of the four San Francisco Airport extension stations in FY02, and 500 additional spaces for core system parking expansion. It is also assumed that transit services operated by other Bay Area agencies which interface with BART will approximate current levels.

RAIL RIDERSHIP FORECAST

As shown in Figure 2-1, ridership at current fares is projected to increase from a budgeted 76.9 million trips in FY98 to 107.0 million trips in FY08.

Core System Ridership

Using the assumptions outlined above, the resulting ridership forecast for the core system is for 89.6 million trips in FY08. This 2.2% annual growth from the FY98 preliminary budget of 71.8 million trips reflects extension station riders exiting at core system stations and 1.5% base core system growth.

Extensions Ridership

Ridership for extensions is consistent with the MTC regional travel model and San Francisco Airport Extension environmental documentation for Locally Preferred Alternative VI, Aerial Design Option. In FY08, passenger exits at the nine extension stations are expected to be 17.4 million. The incremental ridership for the Phase I rail extensions is summarized as follows:

Alameda and Contra Costa County Extensions

Along with the recently opened Castro Valley and Dublin/Pleasanton stations, North Concord/Martinez and Pittsburg/Bay Point stations are budgeted to generate 3.3 million trips on the BART system in FY98. This figure includes an anticipated 36-month phase-in to full ridership levels for each extension station. Ridership for these four stations is forecast to increase to 6.0 million trips in FY08.

San Mateo County Extension:

Colma Station is budgeted to generate 1.9 million trips on BART in FY98. In FY01, the last full year before the start of service to four additional stations along the San Francisco Peninsula, Colma Station ridership is forecast to grow to 2.2 million trips. In FY08, the five Peninsula extension stations south of Daly City are forecast to generate 11.4 million BART trips.

Systemwide Ridership

By FY02, the BART system will have 43 stations and 101 miles of double mainline track. Systemwide ridership is forecast to increase 39.1% (i.e., 3.4% annually), from a budget of 76.9 million trips in FY98 to 107.0 million in FY08.

RAIL SERVICE PLAN

Ridership growth over the SRTP forecast period for both the core system and extensions will require a larger fleet, more trains, and more frequent service relative to today's schedule. Figure 2-2 summarizes how BART plans to expand service to insure that

Figure 2 - 1

BART RIDERSHIP FORECAST

Core System and Extensions

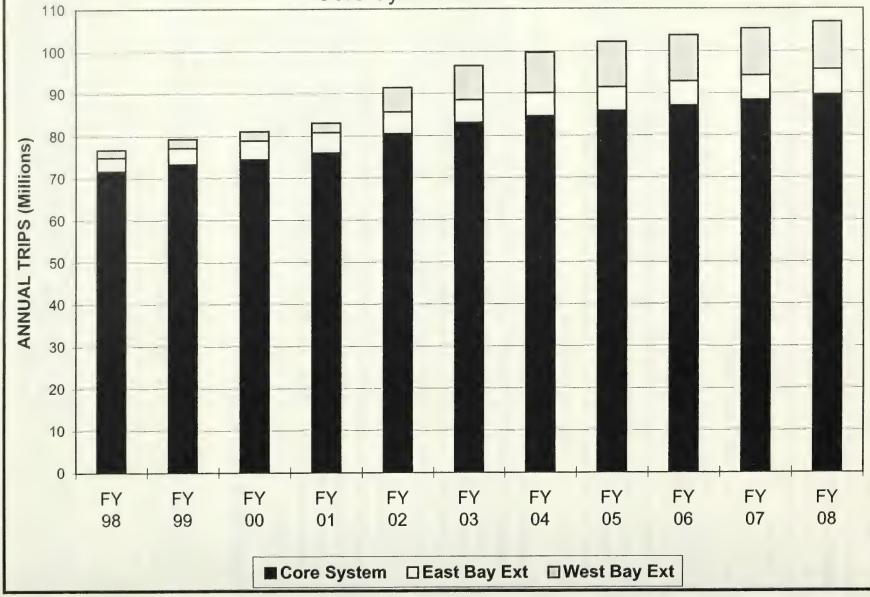


Figure 2 - 2

PEAK PERIOD TRAINS AND CARS ONLINE

FY97 ACTUAL, FY98 - 08 PROJECTED (a)

TOTAL ONLINE TRAIN SUMMARY, BY ROUTE

		FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08
RED	*Richmond*	9	9	9	9	9	13	13	13	13	13	13	13
YELLOW	*Pittsburg/Bay Pt.*	19	19	21	21	21	26	26	26	26	26	26	26
GREEN	*Fremont*	9	9	10	10	10	12	12	12	12	12	12	12
BLUE	*Dublin/Pleas.*	9	9	9	9	9	11	11	11	11	11	11	11
TRANSBAY Subtotal		46	46	49	49	49	62	62	62	62	62	62	62
ORANGE	*East Bay*	10	10	10	10	10	12	12	12	12	12	12	12
MB-SFIA SHUTTLE		---	---	---	---	---	1	1	1	1	1	1	1
SYSTEM TOTAL		56	56	59	59	59	75	75	75	75	75	75	75

TOTAL ONLINE CAR SUMMARY, BY ROUTE (b)

		FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08
RED	*Richmond*	90	90	84	84	84	97	97	97	97	97	97	97
YELLOW	*Pittsburg/Bay Pt.*	190	190	206	206	206	252	254	254	254	254	254	254
GREEN	*Fremont*	74	74	76	80	80	80	80	80	80	80	80	80
BLUE	*Dublin/Pleas.*	63	63	64	64	64	72	72	72	72	72	72	72
TRANSBAY Subtotal		417	417	430	434	434	501	503	503	503	503	503	503
ORANGE	*East Bay*	63	63	63	63	63	51	51	51	51	51	51	51
MB-SFIA SHUTTLE		---	---	---	---	---	3	3	3	3	3	3	3
SYSTEM TOTAL		480	480	493	497	497	555	557	557	557	557	557	557

(a) Service levels as of June 30 of each fiscal year.

(b) Changes in midday train lengths, which drive modular sizing patterns (ie: 5/5/10, 4/3/7), cause fluctuations in car requirements by route by fiscal year.

sufficient capacity is available to accommodate the projected 39.1% gain in ridership, from 76.9 million trips budgeted for FY98 to 107.0 million trips in FY08. Key elements of this expansion plan, the details of which are presented below, call for:

- Increasing BART's fleet from 669 vehicles currently to 697, with receipt of 28 more cars as part of the extension to the San Francisco Airport.

- Adding 19 trains to BART's peak period schedule, increasing the maximum number of online trains from 56 currently to 75, including 1 shuttle train from Millbrae Station to the San Francisco Airport.

- Increasing transbay service from the current schedule of 22 trains per hour to 27 per hour. This throughput will require reducing the system's minimum headway capability from two-minutes fifteen seconds currently, to two minutes or less by FY02. This improvement will effectively allow for increasing transbay service to 30 trains or more per hour.

Achievement of this service expansion is predicated on the timely implementation BART's capital improvement program as documented in the CIP. The CIP reflects the operational parameters and requirements presented in the SRTP. Together, these documents advocate and support BART's grant applications for project funding; system renovation and improvements needed to keep the core system in top condition, complete extensions, and implement other upgrades and enhancements needed to support expanded operations. The following are some of the highlights from BART's *Capital Improvement Program* to support this expansion (see *CIP* for details):

- Rebuilding the original 439 A and B-cars.

- Renovation of stations, including automatic fare collection (AFC) equipment, escalators, and elevators.

- ADA accessibility improvements, including other elevator enhancements, parking, and signs.

- Renovation and replacement of communications and train control systems, including implementation of AATC on the M and upper A lines, to support two-minute minimum scheduled headway service and faster train run times.

- Renovation and expansion of shops and yards, and replacement of maintenance and other essential equipment.

Fleet Management Plan

BART is required to submit a Fleet Management Plan (FMP) to FTA annually. The purpose of the document is to define the current and projected BART revenue vehicle fleet size and operating spare ratio. It includes a description of revenue service planned

to accommodate extensions and forecast growth in patronage, as well as an assessment and projection of needs for vehicle maintenance. The same rail service plans and operating assumptions were developed for both the FMP and the SRTP. Detailed information regarding the balancing of vehicle demand and supply can be found in the latest FMP, dated May 22, 1996.

Car Requirements

Future vehicle requirements were forecast using BART's *Service Planning Model,* which allocates system capacity by route. The model projects maximum trains on line, cars required and estimated car miles for each year. As shown in Figure 2-2, BART's online car requirements are forecast to increase from 480 currently to 557 in FY08, reflecting the addition of 19 peak period trains over today's 56. It is also assumed that the fleet size will increase from 669 vehicles currently to 697 by the time service to San Francisco Airport begins in FY02. Based on the assumptions used in this forecast, as discussed below and shown in Figure 2-2, BART is anticipated to have a sufficient number of vehicles to meet projected demand.

Load Factors

Required capacity is determined by accommodating projected peak period passengers at maximum screenlines at policy load factors. Maximum screenlines are points on each route where the largest number of passengers travel between two stations. As stated previously, the service plans in this SRTP are based on maintaining current peak period load factor conditions on all peak trains. This means systemwide averages no greater than a 1.35 load factor during peak hour operations, 1.15 during the shoulder periods, and a maximum load factor of 1.00 for off-peak service. Note that these load factors represent *targets.* Actual allocation of capacity may differ slightly as impacted by system operating constraints, special requirements, and/or other considerations as discussed below.

Captive Fleet Program

BART's *Captive Fleet Program,* which assigns individual cars to a specific maintenance shop has helped improve vehicle reliability and will become even more important as the fleet expands. Accordingly, the service plans presented in this document return cars to the same yard from which they were dispatched earlier in the day.

Modular Train Sizing

The service plans also respect *modular train sizing.* BART has developed and uses this operating strategy to maximize reliability and flexibility and to minimize labor requirements in the yards for altering train lengths throughout the day. Currently, BART sizes trains on a *5/10, 4/7,* and *4/8* basis for transbay service and on a *3/6/9* basis for the East Bay route. The transition from the morning peak to midday service, for example, can easily be accommodated by splitting a 10-car train in half to form two 5-car trains, or breaking a 4-car train from a 7-car train. On the East Bay route, 9-car trains can be split up into combinations of 3- and 6-car trains. The transition from midday to the afternoon peak service involves the reverse procedure.

Minimum Service Frequencies

In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service would be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: Pittsburg/Bay Point-Colma, Dublin/Pleasanton-Daly City, and Richmond-Fremont.

Service by Route and Extension

Figure 2-2 shows the planned expansion in the number of routes, and the number of trains and revenue vehicles. Note that each route has a *color designation* depicted on system route maps located in each BART car and station, as well as in information brochures. The service plans assume the four station San Francisco Airport extension opens in September 2001 (FY02). BART expands capacity first by lengthening existing trains and then, as headway reduction capability and fleet expansion permit, by adding more trains and adjusting train lengths. Car and train requirements are based on the following service assumptions:

- *YELLOW LINE*, Pittsburg/Bay Point-Transbay Route. Service to Pittsburg/Bay Point Station is provided at a frequency of no less than a train every 15 minutes north of Concord Station and south of Daly City Station. Higher frequency service is added between Concord and Daly City Station to maintain load factors.

- *RED LINE*, Richmond-Transbay Route. Service south of Daly City Station to Colma Station is provided during peak periods only, and is an extension of Richmond-Transbay service, at a service frequency no greater than a train every 15 minutes. During the off-peak, service on this route terminates at Daly City Station.

- *GREEN LINE*, Fremont-Transbay Route. Service is planned to operate on this route as it is currently, at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Fremont.

- *BLUE LINE*, Dublin/Pleasanton-Transbay Route. Service is planned to operate on this route as it is currently, at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Dublin/Pleasanton.

- *ORANGE LINE*, Richmond-Fremont Route. Service is planned to operate on this route as it is currently, with trains serving the East Bay from Richmond to Fremont.

- *MILLBRAE-SAN FRANCISCO AIRPORT SHUTTLE,* A three-car shuttle will be operated between these two stations when service south of Colma opens in FY02.

Symmetrical Route Merging and Headways

Trains merging from individual routes onto common track through downtown Oakland require symmetrical headway operations. Thus, service must be provided on each route at the same headway or one that is an even multiple of it. These current headways

reflect the improvements of STEP, which modified the train control blocking system and made other changes to permit closer headways. It is assumed that once any given route requires closer-headway service at higher frequencies, headways will be adjusted for all other routes to maintain proper train merging.

The minimum sustainable headway in the Transbay Tube is 2 minutes and 15 seconds. In FY02, transbay patronage demand is anticipated to require additional peak period trains, up from four trains per hour to five. Peak period headways on all routes are then planned to be reduced from a train every 15 minutes to one every 12 minutes. This translates to schedules using five trains per hour on each of the *Red Line, Green Line,* and *Blue Line*. The one exception is service on the *Yellow Line* which is to be provided at a higher frequency during peak periods, due to patronage demand. Three train slots are expected to remain and available for future expansion of service beyond the level planned for FY08. In addition, extra peak period trains will be short-turned on the *Yellow Line,* to be used a second time during the peak period. This reduction in headways results in an increase in the number of online trains and effectively reduces average train lengths.

BART's *Advanced Automatic Train Control* (AATC), now under development, is expected to reduce train run times and allow headways to be reduced to 2 minutes, with a peak hour transbay service capability of 30 trains per hour. In the event that AATC is not implemented or is delayed, alternative service plans have been developed, capable of serving the projected patronage with the vehicles available, although at significantly higher load factors.

Maintenance Requirements

For the third quarter of FY97, BART had an average of 117 cars in for maintenance at any given time. It is assumed that with the A & B car renovation and capital investment into BART maintenance shops, the number of cars in for unscheduled maintenance will decrease. With the projected expansion of the fleet to 697 by FY02, the number of cars in for maintenance for the SRTP planning period will range from 97 to 116. This assumes that scheduled capital improvements, discussed in the CIP, are made to maintenance shops to increase output.

Yard Logistics Cars

Ideally, BART allocates two cars each for Concord, Richmond, Hayward, and Daly City maintenance yards for logistical moves in assembling and disassembling trains. Accordingly, eight cars have been carried forward throughout the planning period for this purpose.

Ready Reserve Cars

Ready reserves are cars in train consists that stand ready in reserve during peak periods, in the event operational problems occur. With the opening of the Dublin/Pleasanton Extension, four eight-car ready reserve trains are stationed in each yard. Service plans presented in this SRTP also assume that ready spare vehicles are to be used in revenue service when car deficits arise. Note that, through mid FY02, up to 36

vehicles are continually rotated out of the fleet in accordance with the schedule for completing the A & B Car Renovation Program. Once this program is completed in May 2002, the 36 cars will no longer be rotated out the fleet, but will be used to maintain a higher number of ready spares. However, forecast growth in demand gradually consumes the available vehicles, so ready reserves are again reduced from the current level towards the end of the planning period.

EXPRESS BUS SERVICE PLAN

In keeping with the spirit of the recently enacted Transit Consolidation Bill (SB 1474), BART has sought to consolidate its Express Bus service with local transit operators. BART's current agreement with contract provider, Laidlaw Transit Services, Inc., was due to expire on January 15, 1997. In November 1996, staff negotiated a change order to the Laidlaw agreement for a period not to exceed 15 months, allowing BART staff to explore operational alternatives for Express Bus services with local transit operators. In January 1997, the BART Board authorized the extension of the Laidlaw contract through June 30, 1997, and directed staff to proceed with the development of transition plans with each affected public transit operator. In February and March 1997 the Board adopted transition plans for the Livermore Amador Valley Transit Authority (LAVTA), the Central Contra Costa Transit Authority (CCCTA), and the Eastern Contra Costa Transit Authority (ECCTA). The service agreement with LAVTA became effective April 1, 1997. The agreements with CCCTA and ECCTA will be implemented by July 1, 1997. The Western Contra Costa Transit Authority (WestCat) requested an implementation start date of January 1, 1998, in order to resolve transition issues.

As a result, in FY98 BART will continue to provide Express Bus service to the Interstate-80 corridor on three routes between BART's El Cerrito del Norte Station and Pinole, Hercules, and Rodeo, by contract with Laidlaw. Route J operates daily between its southern terminal at El Cerrito del Norte Station and Pinole and Hercules to the north. Route JX operates on weekdays, during peak hours only, between El Cerrito del Norte Station and Pinole and Hercules. Route Q operates on weekdays, during peak hours only, between El Cerrito del Norte Station and Pinole.

ADA PARATRANSIT SERVICE PLAN

As of January 1997, BART is in full compliance with the federally mandated Americans with Disabilities Act requirement to provide paratransit service to within the BART service area. Federal regulations define the ADA paratransit service area as being within a 0.75 mile corridor on each side of a BART Express Bus route or a 0.75 mile radius around a BART station. When the SF Airport extension stations open, it is assumed that BART's ADA service area will expand accordingly.

Persons eligible for ADA paratransit service are able to make a reservation for a ride at least one day before and up to seven days in advance. A standing order may be used for trips made regularly to and from the same place, at the same time and day of the week.

Dedicated sedans and vans and/or taxis are used to provide most trips. Transbay service is available, through the East Bay Paratransit Consortium, to destinations in San Francisco. Regional ADA paratransit service is available throughout BART's service area and is coordinated with CCCTA, LAVTA, MUNI, ECCTA, and WestCAT.

The data below summarize BART's share of anticipated annual ridership during FY98.

SERVICE AREA	RIDERSHIP
East Bay Paratransit Consortium (31% of the program total)	202,000
San Francisco MUNI (8.8% of the program total)	100,500
Contra Costa (not including service provided by Fixed Route Operators)	30,000
Other East Bay service	13,000
TOTAL ANNUAL RIDERSHIP	**345,500**

Chapter 3

FISCAL YEAR FORECAST

and

FINANCIAL PLAN

BART's SRTP financial plan for FY98 through FY08 focuses on the fiscal requirements for providing service as described in Chapter 2. The financial plan was developed in conformance with the Metropolitan Transportation Commission's guidelines for preparing SRTPs. Key guidelines specify that SRTP's be financially constrained and balanced, and that they include MTC's forecasts for regional funding and unit cost growth. BART's SRTP financial plan reflects these considerations. Sources are identified for revenue, expense, financial assistance, debt service, and other required allocations. Underlying assumptions upon which the SRTP forecast is based are also discussed.

The FY98 budget is presented first, and is the foundation for the ten year projections. Following the FY98 budget is a discussion of the principles used to develop the District's financial forecasts for FY99 through FY08. The base financial forecast is then identified, and is followed by a discussion of alternative futures which have been developed for planning purposes.

It should be noted that the following financial plan includes the impact of the Colma and San Francisco Airport Extension operating cost formulas contained in the BART-SamTrans Comprehensive Service Agreement Amendment dated June 20, 1996. Analysis indicates that the implementation of the San Francisco Airport Extension, in accordance with the terms of this new agreement, will not negatively impact the District's financial capacity to operate and maintain its existing system.

FOUNDATION OF THE SRTP FINANCIAL PLAN -- FY98 REVISED PRELIMINARY OPERATING BUDGET

The foundation and starting point for the SRTP ten year financial plan is BART's revised preliminary budget for FY98, the operating portion of which is summarized in Figure 3-1. This financial statement provides for full support during the fiscal year for core system operations and extensions service. The FY98 revised preliminary operating budget also funds BART's ADA paratransit deficit, bond debt service for systemwide renovation, and other needed allocations. The budget includes $330.5 million in operating revenue and financial assistance, balancing an equal amount of operating expense and debt service. BART's revised preliminary FY98 operating budget provides funding to augment six key areas of emphasis which focus on improving customer satisfaction:

- Ticket vending machine maintenance
- Elevator and escalator maintenance
- Station cleanliness
- Elevator cleanliness
- Vehicle reliability
- Graffiti and vandalism

The revised preliminary FY98 operating budget continues, in the spirit of prior year District budgets, with an emphasis on cost control. This commitment is reflected in the fact that costs are projected to increase only 2.7% over FY97, after adjusting for items new to the FY98 budget. This cost increase includes budgeting for 36 new positions, and compares favorably to the following projected output increases: passenger miles (4.6%) and car miles (6.5%).

On the revenue side, the revised preliminary FY98 operating budget assumes no change to core system ridership except for the small patronage loss associated with the elasticity impact of the April 1997 11.4% fare increase. The revised preliminary FY98 operating budget assumes 5.6% annual sales tax growth on FY97 actual receipts through March 1997, the latest available information when the budget was formulated.

The FY98 budget also assumes 3.0% annual growth for property tax, based on first half receipts for FY97 and prior years receipts. The revised preliminary FY98 operating budget continues to deliver on the promise not to use any of the proceeds from the Board adopted fare increases to balance the core system's financial requirements. The preliminary budget allocates the fare increase proceeds to fund BART's system renovation bond debt service, the ADA paratransit service deficit, and rail extensions service startup.

FY98 Operating Revenue

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Net Passenger Revenue

Net passenger revenue for FY98 is budgeted at $162.1 million, and is 11.3% higher than FY97's budget of $145.7 million. This gain reflects a full year of extensions ridership and a full year's impact of the April 1997 fare increase. Only $0.3 million in express bus revenue has been budgeted for FY98, reflecting recent Board action to transition contract service to local operators. ADA paratransit service passenger revenue is budgeted at $0.4 million in FY98.

Non-Fare Revenue

Revenue from sources other than passenger fares includes interest income on operating fund balances. This line item is budgeted at $7.3 million in FY98. Other non-fare revenue line items include concessions, advertising, rental and lease agreements, parking collections (at Lake Merritt Station and special events at Coliseum station), fines, and forfeitures. Revenue from these sources is budgeted at $3.8 million.

Figure 3 - 1

FY 98 BART REVISED PRELIMINARY OPERATING BUDGET

All Figures in Thousands of Dollars

REVENUE	
Net Rail Passenger Revenue	161,399.5
Express Bus / ADA Service Passenger Revenue	695.1
Total Net Passenger Revenue	**162,094.6**
Interest Revenue	7,278.4
Other Operating Revenue	3,807.3
Subtotal Non-Fare Revenue	**11,085.7**
Total Operating Revenue	**173,180.3**
EXPENSE	
Net Labor	210,181.0
Express Bus Service	1,885.7
Shuttle Service	102.0
Purchased Transportation	2,628.0
ADA Service	6,060.3
Power, Traction & Station	18,841.1
Other Non-Labor	46,743.1
Total Operating Expense	**286,441.2**
OPERATING DEFICIT	**(113,260.9)**
FINANCIAL ASSISTANCE	
Sales Tax (BART 75%)	142,731.1
Property Tax	13,145.1
State Transit Assistance (STA)	1,074.5
Transportation Developmment Act (TDA)	427.5
San Mateo County Service Agreement	0.0
Total Financial Assistance	**157,378.2**
DEBT SERVICE & ALLOCATIONS	
System Renovation Bond Debt Service	(18,744.3)
90 & 91 Sales Tax Revenue Bond Debt Service	(20,073.0)
Capital & Other Allocations	(5,300.0)
Total Debt Service & Allocations	**(44,117.3)**
FINANCIAL RESULT	**(0.0)**

FY98 Operating Expense

Total operating expense for FY98, which includes service for five extension stations, is budgeted at $286.4 million, 6.4% above FY97's budget of $269.1 million. This increase reflects the planned increases in passenger miles and car miles associated with a full year of service to the three new stations opened during FY97 at Pittsburg/Bay Point, Castro Valley, and Dublin/Pleasanton (stations at Colma and North Concord/Martinez opened in FY 96).

Labor Expense and Staffing

Labor expense, which constitutes approximately 74% of BART's operating budget, is set to rise 10.5% from $190.2 million in FY97 to $210.2 million in FY98. This increase is primarily attributable to the following factors: renewal of pension payments to the Public Employees Retirement System and reinstatement of the budgeting of annual holiday buyback, wage and benefit increases, a full year of operations for all five new extension stations, and the addition of 36 positions. Twenty-seven of the 36 positions relate to service and customer satisfaction improvements, including vehicle, ticket machine and elevator/escalator maintenance, and station and elevator cleanliness.

Express Bus and Shuttle Bus Service Expense

BART express bus and shuttle bus operations (with the exception of I-80 corridor service) are expected to be discontinued effective July 1, 1997. Buildup of prior year STA and TDA funding will cover $1.5 million of the revised preliminary budget expense of $1.9. million for FY98 direct BART I-80 corridor service. The $0.4 million balance in net expense will be covered by anticipated fare revenues. In contrast, FY97 budgeted $5.8 million for express bus service.

ADA Paratransit Service Expense

In January 1997, BART came into full compliance with federally mandated ADA paratransit service regulations. ADA paratransit services are budgeted at $6.1 million in FY98.

Purchased Transportation Expense

The MUNI Transfer payment expense is a reimbursement to MUNI for providing feeder bus service to BART stations in San Francisco. The current agreement which governs this reimbursement ties this payment to the growth in sales tax. This expense amounted to $1.7 million in FY97, and is budgeted at $1.9 million in FY98.

Patronage projections indicate that approximately 1.9 million trips will either originate or end at the new Colma station during FY98, generating $4.0 million in net rail passenger revenue. After taking into account both patrons diverted from the Daly City station and net Colma operating expenses per the BART-SamTrans Comprehensive Agreement, the FY98 preliminary budget projects that a $0.7 million net operating surplus will be returned to SamTrans.

Power Expense

Station and traction power expense (including lease costs) constitute approximately 6.6% of the District's operating budget. Power expense is expected to decrease 12.4%, from FY97's budget of $21.5 million to $18.8 million in FY98. This decrease reflects lower power rates from Pacific Gas and Electric's (PG&E) general rate reduction, and the purchase of power from Western Area Power Administration (WAPA). Staff is continuing to negotiate with PG&E for a more permanent arrangement which may further effect these savings. In FY98, BART's contract with Bonneville Power will increase to 20 MW, and the WAPA allocation will be 50MW. This budget assumes savings from these contracts totaling $4.9 million, including savings on the additional load for service to the Dublin/Pleasanton extension. This budget also includes savings totaling approximately $1.0 million annually, from the purchase of electric power substations on the PAX and DPX lines.

Other Non-Labor Expense

This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous items. These non-labor expense line items are budgeted at $46.7 million in FY98, 7.2% above FY97's budget of $43.6 million.

FY98 Financial Assistance

The District's FY98 operating budget includes $157.4 million from all sources of financial assistance; 9.6% over FY97's budgeted financial assistance of $143.6 million. The sources of this funding are as follows:

Sales Tax Financial Assistance

The sales tax rates in the current three-District counties include a 0.5% tax dedicated to transit operating subsidies. BART receives 75% of this amount, with the remaining 25% shared by MUNI and AC Transit.

The FY98 budget of $142.7 million for sales tax financial assistance was formulated in the winter of 1996 and later revised to reflect 5.6% growth over FY97 year-to-date performance (based on the State's six-week reporting lag, actual receipts to date for FY97 represent taxable sales activity through mid-February 1997).

Property Tax Financial Assistance

BART also receives a portion of property tax proceeds in the three-District counties to cover operating expense. The FY98 preliminary budget set property tax revenue at $13.1 million, slightly lower than FY97's budget of $13.2 million. This forecast was based on 1.9% growth over FY97 first half receipts, which came in lower than anticipated.

State Transportation Assistance (STA)

STA assistance apportioned to BART has historically been allocated by MTC to pay for BART feeder service provided by AC Transit, the Dumbarton Express, and Golden Gate Transit's Richmond-San Rafael Bridge line. The FY98 budget assumes that this practice continues, and that the remaining STA funding apportioned to BART is available to cover $1.1 million of the net expense associated with BART's I-80 corridor Express Bus service.

Transportation Development Act (TDA) Financial Assistance

In recent years, BART has received TDA funds to help support annual Express Bus operations. This practice will continue in FY98 as BART plans on claiming $0.4 million for the remaining portion of the net expenses of BART's I-80 corridor Express Bus service.

FY98 Debt Service and Allocations

BART's financial requirements have traditionally included allocations from its operating budget for funding certain obligations. These obligations include bond debt service as well as direct contributions to the District's capital program. These line items are discussed as follows:

System Renovation Bond Debt Service

This line item is new to BART's operating budget as of FY97. It is for the debt service on the first two of three planned issues of bonds, the proceeds of which are to be used for system renovation and other portions of BART's capital program. The amount budgeted for this purpose in FY98 is $18.7 million.

1990 and 1991 Sales Tax Bond Debt Service

This expense is for servicing the debt on the 1990 and 1991 issues of bonds, the proceeds of which were used primarily for the District's capacity expansion program. This program included the purchase of 150 C-1 cars, construction of the Daly City turnback and yard, upgrades to train control, and the expansion of parking facilities. The FY98 revised preliminary operating budget includes $20.1 million for this purpose. The annual debt service payments on these bonds will terminate in 2012.

Capital Program Allocations

In line with the adopted 1996 SRTP, the FY98 revised preliminary operating budget projects a $5.3 million direct allocation to capital from operating sources, for uses other than for the bond debt service identified above.

PERS Reserve Account

Prior allocations, totaling $3.2 million from FY96 and FY97 will be carried forward to the FY99 operating budget. This carry forward will partially offset the impact of the required

resumption of employee pension payments to the California Public Retirement System (PERS).

FY98 Financial Result and Indicators

The District's FY98 revised preliminary operating budget is balanced, with sources of income equal to expense. Budgeted financial performance is favorable relative to levels achieved in prior years, and reflects efforts to contain costs and improve productivity for BART's core operations. The FY98 budget also reflects the impact of the fare increases adopted by the Board in January 1995, as a means of supporting system renovation, ADA paratransit service, and extensions operations.

Farebox Ratio

The farebox ratio is defined as net passenger revenue divided by operating expenses. For the District's rail operations this ratio is budgeted to increase from 56.3% in FY97 to 58.5% in FY98. ADA paratransit service is forecast to have an 6.4% farebox ratio. The systemwide farebox ratio for all modes is budgeted to be 56.6% in FY98, increasing from FY97's 54.1%.

Operating Ratio

The system operating ratio is defined as total operating revenue divided by total operating expenses. This ratio is budgeted to increase from an actual of 58.6% in FY97 to 60.5% in FY98.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile was 26.4¢ in FY97. The FY98 budget calls for this measure to increase 3.4% to 27.3¢ per passenger mile. This change reflects the increased expenses related to the restart of PERs pension payments, a 23.6% increase in track miles and an 8.3% increase in stations, combined with the gradual phasing in of the ridership along these new facilities.

FISCAL PLANNING PRINCIPLES AND NEEDS

As presented in the preceding sections, BART's revised preliminary budget for FY98 is the foundation for the SRTP financial plan for fiscal years 1999 through 2008. The discussion below turns to the principles which guided the development of the financial plan. This presentation is followed by a general discussion of BART's overall fiscal needs in the upcoming ten year period. With the principles and needs outlined, details are presented for the base financial forecast.

Principles For Developing the Financial Plan

BART's financial plan for fiscal years 1999 through 2008 was developed in conformance with MTC's guidelines for preparing SRTPs. These guidelines include the

key requirements that the overall SRTP financial plan be fiscally constrained, balanced, and offer a scenario conforming to MTC's forecasts for regional financial assistance and consumer price index (CPI) growth. Accordingly, BART's financial plan is predicated on the following principles:

- **The forecasts for passenger revenue should be based on ridership projections which are derived from ABAG/MTC regional growth and transportation models, and should reflect latest regional transportation conditions.** The forecast for passenger revenue begins with BART's projection for core system ridership, which is, in turn, based on the most recent ABAG and MTC data available. This basis is supplemented by an assessment of current conditions and projected impacts. Further, the forecast of passenger revenue incorporates ridership projections for extensions which are identified in adopted environmental documentation. The SRTP financial plan assumes that fare levels are maintained at their current rates.

- **The forecast for non-fare revenue should be realistic and achievable.** The forecast for revenue derived from sources other than passenger fares is also based on BART's projections. Sources for this revenue are either existing, programmed, or highly likely to be implemented, and are generally assumed to grow at a 2.6% CPI rate throughout the planning period.

- **The forecast of expense should reflect planned service levels, anticipated one-time or recurring new fiscal requirements, and overall improved levels of productivity.** The forecast of expense was developed using BART's detailed Operations and Maintenance Cost Model, and reflects the fiscal requirements of providing the service levels described in Chapter 2. The expense projections also include the savings resulting from the implementation of cost reduction measures discussed in the introduction to the FY98 preliminary budget, above, and others which could be successfully implemented. Other expense items include the resumption of payments to PERS in FY98, required debt service, and allocations to cover portions of BART's capital program. All unit costs are assumed to grow by the 2.6% annual CPI factor which is recommended by MTC.

- **The forecasts for regional sources of financial assistance should include MTC's projections.** MTC's long term forecast for annual sales tax growth in the three BART counties is 5.6%. The FY98 SRTP also assumes no STA or TDA funding for either general operating purposes or ADA paratransit services. As part of agreements to transition of Express Bus services to local transit operators, BART has agreed not to claim STA and TDA funds for which the District might be eligible.

- **The forecasts for other sources of financial assistance should be conservatively projected and based on historical data.** The forecast for property tax is based upon 4.0% annual growth, based on a continuation of recent increases in activity in the Bay Area's real estate market.

These financial planning principles, in effect, establish overall parameters for the expenses BART is likely to incur in relation to its sources of income. Within this financial framework are key fiscal needs which influence this SRTP's financial plan. These fiscal needs are discussed in the following section.

BART's Fiscal Needs

BART's key fiscal needs in the current SRTP timeframe are well documented and have been identified in prior SRTPs and CIPs, the District's budget pamphlets for FY97 and FY98, as well as in other reports. All of the District's key fiscal needs relate to the fact that BART is both an aging and growing system. The key fiscal needs stem from the requirement to provide additional funds for system renovation and extensions operations, and meet the federal ADA paratransit service mandate.

In May 1994, the District and MTC jointly adopted a cooperative funding program to address BART's most immediate needs for system renovation. This agreement calls for MTC to program $450.8 million for BART renovation projects, and for BART to internally generate $200.5 million as its match to the proposed grant funds. The SRTP and CIP, in fact, propose generating substantially more than $200.5 million, in order to fund additional essential capital projects, beyond the scope of the agreement with MTC. The strategy for raising the funds needed for system renovation included a series of three planned bond issues and the fare increase package adopted in January 1995. The debt service requirement for the first and most of the second issues of these bonds is covered by the fare increase package (i.e., through FY98). The third issue of system renovation bonds is scheduled to add $14 million in debt service expenses in FY00.

In addition to the above fiscal obligations is the projected need for $76.3 million to support BART's ten-year capital program (refer to the FY98 CIP). This fiscal requirement has recently been identified under MTC's revised capital program fund projections.

Another key fiscal consideration is ADA paratransit service. In January 1997, BART came into full ADA compliance in per federal mandate. As discussed above, the District's FY98 budget provides for full ADA paratransit service support, budgeted at $6.1 million.

BASE FINANCIAL FORECAST AND ASSUMPTIONS

The following sections present individual elements contained in BART's base financial forecast. As shown in Figure 3-2, the base forecast builds upon the District's FY98 preliminary budget and consists of fiscal year projections for revenue, expense, financial assistance, debt service, and other required allocations. The process used to develop the base forecast is discussed below. Identified are cost reduction measures,

Figure 3-2: FY98 SRTP Base Financial Forecast

2.6% ANNUAL CPI GROWTH & 5.6% ANNUAL SALES TAX GROWTH

All Dollar Figures are in Millions and are Rounded

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	Revised Prelim Budget				SFO 9/30/01						
	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08
REVENUE											
Net Rail Passenger Revenue	161.4	166.7	171.1	175.5	200.9	214.8	222.2	228.0	231.5	235.0	238.6
SFIA $1 50 Premium Surcharge Revenue	0.0	0.0	0.0	0.0	2.5	4.0	4.8	5.4	5.5	5.6	5.7
Net Express Bus Passenger Revenue	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADA Service Passenger Revenue	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6
Total Net Passenger Revenue	162.1	167.1	171.5	175.9	203.9	219.4	227.5	234.0	237.7	241.2	244.9
Interest Revenue	7.3	7.5	7.7	7.9	8.1	8.3	8.5	8.7	8.9	9.2	9.4
TRACS Revenue	0.0	1.6	1.6	1.7	1.7	1.9	1.9	1.9	2.0	2.0	2.2
Other Operating Revenue	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.6	4.7	4.8	4.9
Subtotal Non-Fare Revenue	11.1	13.0	13.3	13.7	14.0	14.5	14.8	15.2	15.6	16.0	16.5
Total Operating Revenue	173.2	180.1	184.8	189.6	217.9	233.9	242.3	249.2	253.3	257.2	261.4
EXPENSE											
Net Labor	201.0	207.8	214.5	220.6	241.8	258.2	265.8	273.5	281.4	289.0	297.0
PERS	9.2	8.4	8.6	11.1	12.2	13.0	13.4	13.8	14.2	14.6	15.0
Traction/Station Power, with lease costs	18.8	18.8	18.9	18.9	21.0	22.5	23.0	23.6	24.1	24.7	25.4
SFIA Rent	0.0	0.0	0.0	0.0	1.9	2.5	2.5	2.5	2.5	2.5	2.5
Other Non-Labor	46.7	48.7	49.3	51.0	54.4	57.7	58.9	61.0	62.5	64.2	66.0
Subtotal Net Rail Expense	275.8	283.7	291.4	301.7	331.3	353.9	363.6	374.3	384.7	395.1	405.8
Express Bus Service	1.9	2.5	2.6	2.6	2.7	2.8	2.8	2.9	3.0	3.1	3.1
Shuttle Service	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Purchased Transportation (MUNI)	1.9	2.1	2.3	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.5
Purchased Transportation (SamTrans Serv Agrmt)	0.7	1.2	1.1	1.0	2.5	7.3	7.7	0.0	0.0	0.0	0.0
ADA Paratransit Service	6.1	6.3	6.5	6.7	7.3	7.8	8.0	8.2	8.5	8.7	9.0
Subtotal Non-Rail Expense	10.7	12.2	12.5	12.8	15.1	20.6	21.5	14.2	14.7	15.2	15.7
Total Operating Expense	286.4	295.8	303.9	314.5	346.4	374.5	385.2	388.6	399.5	410.3	421.5
OPERATING DEFICIT	(113.3)	(115.7)	(119.1)	(124.8)	(128.5)	(140.7)	(142.8)	(139.4)	(146.2)	(153.1)	(160.1)
FINANCIAL ASSISTANCE											
Sales Tax Proceeds (BART 75%)	142.7	150.7	159.2	168.1	177.5	187.4	197.9	209.0	220.7	233.1	246.1
Property Tax Proceeds	13.1	13.7	14.2	14.8	15.4	16.0	16.6	17.3	18.0	18.7	19.5
STA & TDA Assist for ADA & Gen Op	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Financial Assistance	157.4	164.4	173.4	182.9	192.9	203.4	214.6	226.3	238.7	251.8	265.6
DEBT SERVICE & ALLOCATIONS											
System Renovation Bond Debt Service	(18.7)	(30.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)
90 & 91 Sales Tax Revenue Bond Debt Service	(20.1)	(20.2)	(20.3)	(20.4)	(20.5)	(20.6)	(20.7)	(20.9)	(21.0)	(21.1)	(21.3)
SFO Substation Debt Service	0.0	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
SF CAPRA Debt Service	0.0	0.0	0.0	(5.6)	(5.6)	(5.6)	(5.6)	(5.6)	(5.6)	(5.6)	(5.6)
BART-SamTrans Allocation to E. Bay Ext.	0.0	0.0	0.0	0.0	(0.5)	(4.8)	(5.2)	(17.0)	(16.6)	(15.9)	(15.2)
Capital Program Allocations	(5.3)	(3.8)	(2.9)	(2.2)	(8.1)	(3.2)	(11.8)	(16.1)	(23.2)	0.0	0.0
PERS Reserve Account	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Debt Service & Allocations	(44.1)	(52.7)	(69.0)	(74.1)	(80.6)	(80.1)	(89.3)	(105.5)	(112.2)	(88.5)	(88.0)
ADDITIONAL COST CONTAINMENT & REVENUE ENHANCEMENTS	0.0	4.0	14.7	16.0	16.2	17.3	17.6	18.6	19.7	0.0	0.0
ANNUAL FINANCIAL RESULT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	17.5
BEGINNING YEAR BALANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1
CUMULATIVE BALANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	27.6
PATRONAGE											
Systemwide Average Weekday Trips	264,838	273,723	279,825	286,471	315,164	333,084	343,829	352,456	357,724	363,087	368,547
Systemwide Total Annual Trips	76,930,467	79,379,591	81,149,252	83,076,652	91,397,684	96,618,000	99,977,470	102,513,762	104,022,172	105,521,435	107,047,892

adjustments to revenue and expense, and the underlying assumptions for each element.

Operating Revenue Forecast

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Rail Passenger Revenue

The basis for projecting rail passenger revenue is the rail ridership forecast presented in Chapter 2. Gross fare revenue is then reduced by BART's systemwide discount rate to account for the use of discounted tickets and passes. This step converts the forecast of gross fare revenue to a net revenue, which represents the actual passenger fares BART is forecast to receive. In calculating rail passenger revenue, the SRTP financial model also adjusts ridership to account for previously approved fare increases and associated erosion of demand. Based on the methodology described above, rail passenger revenue is projected to increase, from $166.7 million in FY99, to $238.6 million in FY08.

Trips which involve San Mateo County station use are identified as part of a special analysis to determine the level of San Mateo County surcharges included in Net Rail Passenger Revenue. This update of the SRTP includes the provisions in regard to these surcharges from the following agreements executed for the implementation of the San Francisco Airport Extension: the BART-SamTrans Comprehensive Agreement (June 1996), the pending Full Funding Grant Agreement with the Federal Transit Administration (FTA), and the Lease, Use, and Operating Agreement with the San Francisco International Airport (April 1997).

The BART-SamTrans Comprehensive Agreement was executed originally in 1990, and was substantially modified by a June 1996 Amendment. As it now stands, SamTrans will be responsible for paying any net operating deficit on the BART Extension to San Francisco International Airport. BART and SamTrans have agreed, however, to continue the 76¢ San Mateo surcharge (currently imposed at the Daly City and Colma stations) on the extension's four stations. These surcharges are projected to raise sufficient revenue to cover operating costs and generate a surplus to be pledged to meeting SamTrans remaining buy-in commitment to BART's Eastbay Extensions program. The Net Rail Passenger Revenues documented in Table 3-2 assume that, at each of the West Bay extensions stations, a 76 cent surcharge is applied to the regular fare.

The Lease, Use, and Operating Agreement with the SFIA will require BART to pay $2.5 million in annual rent to the SFIA. This rental payment will be funded from additional operating revenues. The Agreement will also require that airline employees using the

BART-SFIA station receive a 25 percent discount off their fares. The proceeds from these additional surcharges and the approximately $1 million revenue loss associated with the airline employee discount are both included in the Net Rail Passenger Revenue line in Table 3-2.

San Francisco International Airport Premium Surcharges

In FY02, with the initiation of revenue service on the Extension, the District will, if need be, implement an additional $1.50 surcharge on all trips using the BART station at the San Francisco International Airport. Per the terms of the pending Full Funding Grant Agreement with the FTA, the incremental revenues associated with these surcharges will be pledged towards a capital reserve account (CAPRA) dedicated to funding potential cost overruns on the San Francisco Airport Extension.

The imposition of this $1.50 surcharge, in conjunction with the other surcharges imposed at this station, will result in a 15% fare-elasticity driven reduction to the FEIR/FEIS FY10 ridership estimate of 17,800 daily entries and exits. The incremental revenue associated with this surcharge would, however, be nearly $4 million in FY 2003, growing to over $5.7 million by FY 2008. If cost overruns do not materialize on the construction of the San Francisco Airport Extension, then the District will be able to avoid having to impose this premium surcharge, and its impact on ridership at the SFIA station.

Express Bus Passenger Revenue

No passenger revenue for express bus service has been forecast for the ten-year planning period, reflecting the complete transitioning of express bus service to adjacent local operators by June 30, 1998.

ADA Paratransit Passenger Revenue

Projected passenger revenue for ADA paratransit service reflects current and anticipated cost-sharing agreements BART has with Bay Area transit operators. After the first full year of ADA compliance, FY98, ADA paratransit passenger revenue assumes that ridership for this service will grow at approximately the same rate as rail ridership. BART's forecast for ADA paratransit passenger revenue is $0.4 million in FY99, growing to $0.6 million by FY08.

Total Net Passenger Revenue

BART's total net passenger revenue, consisting of the revenue from the above sources is forecast to grow from $167.1 million in FY99 to $244.9 million in FY08.

Operating Revenue From Sources Other Than Fares

Approximately one third of BART's non-passenger fare revenue is generated through concessions, advertising, rent and lease agreements including joint development, parking collections (currently at Lake Merritt Station and Coliseum special events only), fines and forfeitures, and miscellaneous other sources. The total amount of revenue

from these sources is forecast to grow by the 2.6% annual CPI growth rate, from $3.9 million in FY99 to $4.9 million in FY08. Beginning in FY99, additional operating revenue is forecast to be generated by a telecommunications fiber optics project (TRACS). Revenue for current contracts are anticipated to yield $1.6 million in FY99 growing to $2.2 million by FY08. The remaining non-passenger revenue is derived from interest earnings on operating fund balances. This source of revenue is forecast to generate $7.5 million in FY99, growing at 2.6% to $9.4 million in FY08.

Total Operating Revenue

Based on the forecasts for passenger and non-passenger revenue line items discussed above, BART's revenue is projected to grow from $180.1 million in FY99 to $261.4 million in FY08.

Operating Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model output was calibrated to the FY98 preliminary budget, with adjustments made to reflect deficit reduction measures, non-linear expense items, and anticipated revisions to unit costs.

Inputs to the cost model reflect the service levels for both rail and express bus, as discussed in Chapter 2. Other expenses, such as ADA paratransit, were added to the modeled forecast. Key inputs to the cost model include:

- Annual passenger trips
- Number of routes and route miles of track
- Number and configuration of stations (i.e., subway, at-grade, etc.)
- Peak online trains and cars
- Number of cars in the fleet
- Annual car miles
- Annual train hours
- Annual express bus hours

Additionally, the model input includes assumptions for the consumer price index. The 1998 SRTP assumes the 2.6% CPI annual growth rate throughout the ten-year period.

Staffing and Labor Expense

Labor expense growth reflects the increases in staff needed for expanding system operations for extensions. The largest increases in staffing are forecast to occur in fiscal years during which new extensions service begins. Labor expense is forecast to grow from $207.8 million in FY99 to $297.0 million in FY08.

Public Employee Retirement System Expense

As a result of favorable balances, BART has not been required to make payments to PERS since FY89. However, BART does anticipate that it will be required to resume PERS payments in FY98. The amount in FY99 is forecast to be $8.4 million, and is assumed to grow in proportion to annual labor expense increases to $15.0 million in FY08.

Traction and Station Power Expense

Power expense is a model output, and is forecast largely on the basis of car miles and number of stations. The basic cost per unit of power is assumed to be flat through FY01, per a tentative five year PG&E rate freeze. Beginning in FY02 and in subsequent years, the basic cost per unit of power is assumed to grow at 2.6% annually. Anticipated savings from the purchase of federal power are included in BART's power expense forecast. The same growth for these savings is assumed (i.e., flat for five years, then at CPI). These savings are estimated to be $5.0 million annually from FY99 through FY00, $5.6 million in FY01 (although the unit rate remains flat, the savings grow with the addition of service to Millbrae), and increasing to $6.6 million in FY08. The resulting expense for traction and station power is forecast to be $18.8 million in FY99, and increasing to $25.4 million in FY08.

SFIA Rental Payment

As discussed in the Revenue section, BART will implement a modest surcharge at its six San Mateo County stations for the purpose of making a $2.5 million annual rental payment to the SFIA. This payment will begin in the second quarter of FY 2002, and will remain at $2.5 million per year over a 50 year period.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous expenses are forecast to increase from a forecast of $48.7 million in FY99 to $66.0 million in FY08.

Express Bus Service Expense

In accordance with the ongoing negotiations with MTC and the local bus operators serving BART's current Express Bus corridors, the FY98 SRTP assumes that, in lieu of contracting out directly for this service, BART will simply make a $2.5 million subsidy payment beginning in FY99 to these operators. This payment is projected to grow at the 2.6% annual CPI growth rate. It will help compensate these local bus operators for the net operating losses associated with taking over service in these corridors.

Shuttle Bus Expense

BART's expense for shuttle bus service includes payments to the Port of Oakland in support of Oakland Air-BART, temporary shuttles as need for bus bridges due to cessation of rail service, and other temporary shuttles such as that to the Alameda

County Fair. This expense is forecast to grow at 2.6% annually and amounts to approximately $0.1 million in each fiscal year from FY99 through FY08.

Purchased Transportation (Muni)

The formula which defines the reimbursement for providing feeder service to BART from MUNI is tied to sales tax growth. Purchased transportation expenses for Muni transfers is forecast to grow from $2.1 million in FY99 to $3.5 million in FY08.

Purchased Transportation (SamTrans)

BART is obligated by the BART-SamTrans Agreement to pay to SamTrans any fare surcharge revenues collected at its Colma station which are not required to cover the District's cost of providing service to this station. A surplus payment of $700,000 is budgeted for FY98. This amount will increase to $1.2 million in FY99, as ridership increases at the Colma station. Eventually, these payments will decline slightly as marginal costs grow by inflation and fare revenue growth levels out. Payments to SamTrans will increase again in FY 2002, because, per the amended BART-SamTrans Agreement, SamTrans is entitled to half of the San Francisco Airport Extension net operating surplus during its first three years of operation. After these three years pass, all net operating surpluses generated will accrue to BART's Eastbay Extensions.

ADA Paratransit Service Expense

Expense for ADA paratransit service assumes the current and anticipated cost-sharing agreements BART has, or will have, with other Bay Area transit operators through FY98. In subsequent years, ADA expenses are assumed to increase at the same rate as rail operating expenses. On this basis, ADA paratransit expense is forecast to grow from $6.3 million in FY99 to $9.4 million in FY08.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $295.8 million in FY99 growing, by the combination of system expansion and 2.6% CPI, to $421.5 million in FY08.

Financial Assistance Forecast

Financial assistance to support BART operations comes from a variety of sources as was identified in the FY98 preliminary budget portion of this chapter. The forecast for financial assistance through FY08 is discussed in the following sections:

Sales Tax Financial Assistance

Sales tax revenue is the single largest source of financial assistance the District receives for operations. The base long term forecast for sales tax growth of 5.6%. This forecast matches MTC's regional growth rate projections for sales tax revenue in the three-county BART district. With these MTC growth factors the amounts collected would be $150.7 million in FY99, which grows to $246.1 million in FY08.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 4.0% annually between FY99 through FY08. Financial assistance from property taxes is forecast to be $13.7 million in FY99, growing to $19.5 million in FY08.

STA & TDA Financial Assistance

As stated in the FY98 revised preliminary operating budget section of this chapter, BART has agreed to relinquish claims on STA and TDA funds as part of agreements with local transit operators assumption of BART express bus service.

ADA Paratransit Financial Assistance

The 1996 SRTP identified STA and TDA as being the principle sources of ADA paratransit funding. With no STA and/or TDA forecast to be available (i.e., per the discussion in the previous section), this SRTP assumes that BART will fund ADA paratransit service directly from operating revenue sources.

Total Financial Assistance

Total financial assistance from all of the above sources is projected to grow from $164.4 million in FY99 to $265.6 million in FY08.

Debt Service and Allocations

BART's base financial forecast includes fiscal obligations from operating sources for debt service and other required allocations. These items are discussed in the following:

System Renovation Bond Debt Service

This debt service consists of three issues of bonds, the proceeds of which are slated to be used primarily for system renovation. The first series of these bonds was issued in May 1995. The second series of bonds is scheduled to be issued in 1998, with the third series to follow in 1999. The total debt service for these three issues is shown in Figure 3-2 on the System Renovation Debt Service line item, which grows from $18.7 million in FY98 to $44.8 million in FY08.

1990 and 1991 Sales Tax Revenue Bond Debt Service

Debt service for the 1990 and 1991 sales tax revenue bonds is based on the respective payment schedules for these issues. According to these schedules, this annual debt service is $20.1 million in FY98 and remains virtually flat through FY08. The debt service payments on these bonds will conclude in 2012.

SFO Substations Debt Service

BART plans to issue bonds to pay for the purchase of traction power substations serving the San Francisco Airport Extension. The roughly $1 million annual debt service obligation related to financing the purchase of this substation is less, in net present

value terms, than the operating cost to BART of leasing this substation from a third party.

SFO Capital Reserve Account (CAPRA)

The pending FFGA for the San Francisco Airport Extension includes a section which requires BART to set aside $72 million to a Capital Reserve Account (CAPRA) dedicated towards paying for potential cost overruns on the San Francisco Airport Extension. The first $7.5 million pledged towards this CAPRA is included in the Capital Allocations line item for years FY97 through FY00. Beginning in FY01, the District will, if need be, issue $64.5 million in bonds which are backed by the revenue generated from the 76 cent surcharge collected at Daly City Station and the revenue generated by an additional $1.50 surcharge on all trips using the San Francisco International Airport BART Station. This $64.5 million in bond proceeds would have an annual debt service requirement of $5.6 million.

It should, again, be stated that if cost overruns fail to materialize on the San Francisco Airport Extension, then these debt service costs will not have to be incurred.

BART-SamTrans Agreement Allocation to East Bay Extensions

Beginning in FY02 with the implementation of the San Francisco Airport Extension, the District will transfer net operating surplus revenues generated from this service towards the District's Eastbay Extensions program. For the first three fiscal years of revenue service SamTrans will share this surplus evenly with BART. In FY05 -- the fourth year of operations -- the entire $17 million projected surplus will be transferred to the East Bay Extensions Program. These surpluses could grow after FY05 to the extent that fare revenues outpace the operating costs attributed to the extension by the detailed fully allocated cost formula included in the BART-SamTrans Comprehensive Agreement. Surpluses will accrue entirely to BART's East Bay Extensions until all of SamTrans $145 million remaining Buy-in commitment is liquidated. Annual surpluses will be split by the two parties once this $145 million is generated.

Capital Program Allocations

The base financial forecast includes a cumulative allocation of $76.3 million between FY98 and FY06 to support the District's capital program fiscal needs over the planning period (refer to BART's FY98 CIP). Without this allocation, critically needed projects would have to be delayed. As shown in Figure 3-2, annual capital allocations in the range of $2 million to $8 million are provided in FY98 through FY03. Larger annual capital allocations, in the $12 million to $23 million range, are provided in FY04 through FY06.

PERS Reserve Account Allocations

To reduce the District's liability with regard to resumption of PERS payments, a total of $3.2 million was budgeted and allocated to a special PERS account during FY96 and

FY97. The financial forecast assumes these funds will be used to offset the District's $8.4 million payment to PERS in FY99.

Total Debt Service and Allocations

Based on the above considerations, BART's total debt service and allocations are forecast to be $52.7 million in FY99. Annual debt service and allocations will reach a high of $112.2 million in FY06, and end at $88.0 million in FY08

Additional Cost Containment and Revenue Enhancements

The base financial forecast assumes BART will continue to prudently manage its operations during the current SRTP planning period, consistent with past practices. The District employs a conservative approach to planning, budgeting, and budget management. Inherent in this process are ongoing efforts to evaluate all line-item expenses to identify opportunities to contain costs and increase productivity. This management approach has enabled BART to make optimal use of funds and to continue to improve the system. This fact is underscored in Figure 3-3, which identifies actual fiscal year expense for fiscal years 1986 through 1996. Actuals are compared to the corresponding expense identified in each fiscal year's adopted budget. This comparison also includes the forecasts of expense identified in the SRTPs which were published five years earlier.

As indicated in Figure 3-3, the District has a record of consistently spending substantially less in any given fiscal year relative to amounts forecast five years earlier for the same fiscal year. It is reasonable to assume, as this base forecast does, that this trend will continue. If the past holds any lessons for the future, it is that the District will continue to evaluate all aspects of how it conducts business, both at the macro and micro levels; and that future implementation of cost containment measures will occur as BART continues to prudently manage its operations. With the ten year $3.6 billion program presented in this SRTP's base forecast, every 1% savings translates to a $36.4 million reduction in total program costs over the ten years.

Cost containment is a significant aspect of how BART has provided and will continue to provide sufficient resources to meet its financial needs, while improving and expanding service. A second important aspect of BART's overall financial strategy is revenue enhancement.

Consistent with past efforts, the District will continue to pursue opportunities to procure local, state, and federal financial assistance. The District will also continue to develop and implement programs to generate additional revenues from sources other than passenger fares.

BART is also pursuing several revenue enhancement programs including joint development projects, additional lease agreements for fiber optics facilities, and special

Figure 3 - 3

ANNUAL BUDGET & SRTP FORECASTS vs ACTUAL EXPENSE

Variances Reflect Efforts to Contain and/or Reduce Costs

As Well as Changes in Assumptions for Extension Start Dates, Fleet Size, and CPI

Dollar Figures in Millions

Fiscal Year	Actual Expense	ADOPTED BUDGET, 1-YEAR LOOK		SRTP, 5-YEAR LOOK	
		Forecast	% vs Actual	Forecast	% vs Actual
86	160.9	163.9	1.9%	185.7	15.4%
87	162.2	174.5	7.6%	198.0	22.1%
88	167.8	171.8	2.4%	205.4	22.4%
89	172.2	174.6	1.4%	224.9	30.6%
90	193.0	193.3	0.2%	220.4	14.2%
91	206.7	208.2	0.7%	236.8	14.6%
92	213.7	219.9	2.9%	223.7	4.7%
93	210.4	213.0	1.2%	217.0	3.1%
94	217.4	220.3	1.3%	233.6	7.5%
95	218.3	227.0	4.0%	256.0	17.3%
96	244.3	240.1	-1.7%	297.1	21.6%
Average	---	---	**1.8%**	---	**15.3%**

Note: The FY 86 actual expense, for example, is compared to the corresponding annual budget which is adopted one year earlier. FY 86 actual expense, in this example, is also compared to the SRTP forecast formulated five years earlier, in 1981.

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joint advertising and promotions programs. Should the above cost containment and revenue enhancement programs prove insufficient to fund a deficit in any given year, BART is prepared, as it has been in the past, to consider modest fare increases as part of the solution.

Based on past efforts and others described above, the base financial forecast assumes a net yield resulting from a combination of cost containment measures and/or increased financial assistance of $4.0 million in FY99. This yield is forecast to increase to between $15 million and $20 million annually between FY00 and FY06. With financial assistance expanding at a greater rate than expenses and debt service, there will be no net yield required from these measures in FY07 and FY08.

Financial Performance and Indicators

Farebox Ratio

As documented in Figure 3-4, the farebox ratio for rail operations is forecast to start out at 58.8% in FY99, and grows to 61.1% in FY04, reflecting the full build up of the ridership and revenue for the San Francisco Airport extension. Assuming no fare increases in the SRTP period, the rail operations farebox ratio will decline after FY04 to 58.8% by FY08. ADA paratransit passenger revenue is forecast to cover 6.4% of expense in FY99, growing to 6.5% in FY08. The systemwide farebox ratio is forecast to be 56.5% in FY99, growing to 60.2% in FY05 before declining to 58.1% in FY08.

Operating Ratio

The system operating ratio is forecast to be 60.9% in FY99, increasing to 64.1% in FY05, and then decreasing slowly to 62.0% in FY08.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile is projected to be 26.0¢ in FY99. Longer extension trips in later years help BART to improve this level of productivity by the end of the planning period. The projected rail cost per passenger mile for FY08 is 25.6¢.

ALTERNATIVE FUTURES

As the District's 25 year operating record shows, BART has been successful in adjusting and responding to a wide range of fiscal changes, demands which have been precipitated over the years by anticipated as well as unanticipated events and conditions. The SRTP has and continues to play a vital role in this planning process, by identifying possibilities and concerns beyond the immediate budget year which may require management attention and eventual action. In this respect, the SRTP has acted as a kind of early warning system, effectively alerting management and the Board to emerging opportunities and issues.

Figure 3 - 4

FY 98 SRTP
BASE FINANCIAL FORECAST
Financial Performance Indicators

		Revised Prelim Budget FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08
Farebox Ratios:	Rail	58.5%	58.8%	58.7%	58.2%	60.6%	60.7%	61.1%	60.9%	60.2%	59.5%	58.8%
	ADA	6.4%	6.4%	6.4%	6.4%	6.7%	6.7%	6.7%	6.7%	6.6%	6.5%	6.5%
	System	56.6%	56.5%	56.4%	55.9%	58.9%	58.6%	59.1%	60.2%	59.5%	58.8%	58.1%
System Operating Ratio		60.5%	60.9%	60.8%	60.3%	62.9%	62.4%	62.9%	64.1%	63.4%	62.7%	62.0%
Rail Cost Per Passenger Mile		$0.273	$0.260	$0.259	$0.261	$0.251	$0.250	$0.248	$0.248	$0.251	$0.254	$0.256

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Consistent with past practice, this SRTP looks at conditions which might cause variances in key assumptions used in the base forecast. The base forecast is particularly sensitive to changes in CPI growth assumptions which directly impact expenditure projections, and to changes in sales tax receipts growth factors since this is the single largest component of the financial assistance the District receives for operations.

As noted earlier in this chapter, the base financial forecast uses the MTC recommended CPI growth factor of 2.6% and sales tax growth factor of 5.6%. For planning purposes, it seems prudent to look at how BART's financial needs might change given slightly higher CPI growth and lower sales tax growth. Using more conservative projection factors of 3% CPI growth and 4.8% sales tax growth, the District would have to begin instituting cost containment or revenue enhancement programs in FY99 yielding roughly $6 million. These measures would have to grow to over $30 million per year by FY03 in order to maintain the planned allocations to capital within the scheduled time frame.

CONCLUDING REMARKS

As described in this SRTP, BART's future includes substantial changes and capital needs which will be addressed over the course of the next decade. From an operations perspective, BART will continue to implement system renovation and service expansion programs. The District is committed to provide uninterrupted high-quality service through this transition period. This commitment can and will be achieved through continued planning and evaluation, timely decision making, and effective and efficient management. These keys to success will enable BART to continue to provide safe, reliable, and efficient transportation well into the next century.

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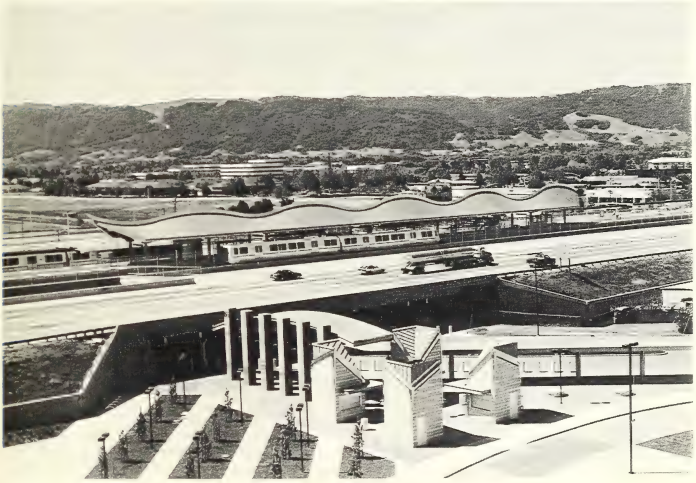
San Francisco Bay Area Rapid Transit District

SHORT RANGE TRANSIT PLAN

July 1997 Through June 2008
Fiscal Years 1998 - 2008



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October 23, 1997

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SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

SHORT RANGE TRANSIT PLAN

FISCAL YEARS 1998 - 2008

The preparation of this report has been financed in part through a grant from the United States Department of Transportation, Federal Transit Administration under the Federal Transit Laws, 49 U.S.C. Chapter 53 and passed through the Metropolitan Transportation Commission. This report has been prepared in conformance with MTC guidelines for Short Range Transit Plans.

The contents of this report reflect the views of BART which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation, and does not preclude future labor contract negotiations or future BART Board deliberations regarding fares.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects.

This report was researched and prepared by:

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Financial Planning Division
Department of Operating Budgets & Analysis
San Francisco Bay Area Rapid Transit District

Adopted October 23, 1997

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

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LIST OF ACRONYMS

AATC	Advanced Automatic Train Control (system)
ABAG	Association of Bay Area Governments
ACTransit	Alameda-Contra Costa Transit District
ADA	Americans With Disabilities Act
AFC	Automatic Fare Collection (equipment)
BART	(San Francisco) Bay Area Rapid Transit District
CAPRA	Capital Reserve Account
CCCTA	Contra Costa County Transit Authority
CIP	(BART) Capital Improvement Program
CPI	Consumer Price Index
DPX	Dublin/Pleasanton Extension
ECCTA	Eastern Contra Costa Transit Authority
FEIR	Final Environmental Impact Report
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FMP	Fleet Management Plan
FTA	Federal Transit Administration
FY	Fiscal Year (July 1 - June 30)
LAVTA	Livermore Amador Valley Transit Authority
MTC	Metropolitan Transportation Commission
MUNI	(San Francisco) Municipal Railway
MW	Megawatt
OCC	(BART) Operations Control Center
PAX	Pittsburg/Antioch Extension
PERS	(California) Public Employees Retirement System
PG&E	Pacific Gas and Electric
SAMTrans	San Mateo County Transit District
SFIA	San Francisco International Airport
SRTP	(BART) Short Range Transit Plan
STA	(California) State Transportation Assistance
STEP	System Throughput Enhancement Program
TDA	(California) Transportation Development Act
TRACS	Trunk Radio Communication System
WAPA	Western Area Power Administration
WestCAT	Western Contra Costa Transit Authority (WestCAT)

Chapter 1

BART ORGANIZATION

&

SYSTEM OVERVIEW

The San Francisco Bay Area Rapid Transit District was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. Voter approval, in 1962, of a $792 million general obligation bond issue in San Francisco, Alameda, and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71 mile system. BART was the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology. The District is governed by a Board of nine publicly elected Directors, each representing the voters in one of nine election districts within the three-county District. BART's FY98 budgeted workforce includes 3,381.5 full-time equivalent positions, 3,009.5 of which are for operations and 372.0 for capital projects. BART's administrative departments are presented in the organization chart in Figure 1-1. The goals of the District are summarized in Figure 1-2.

MAJOR COMPONENTS OF BART'S CAPITAL PLANT

The 1962 general obligation bond issue provided funding for BART's core system, which opened for service on September 11, 1972. On opening day, key components of the core system included 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the fleet to date), 33 stations, and an administration and operations control center. Capital improvements made over the past 25 years have added to this inventory base. These additions include 230 more cars, the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland, a new central train control computer, and six additional stations. Embarcadero station opened for service in May 1976, North Concord/Martinez in December 1995, Colma in February 1996, Pittsburg/Bay Point in December 1996, and both Castro Valley and Dublin/Pleasanton in May 1997. A map of the current system is shown in Figure 1-3.

Track and Right-of-Way

BART is a third-rail, 1,000 volt DC, electrically powered railway. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 93 miles of continuously welded, double-mainline, 66 inch gauge track. A special track geometric vehicle is used to analyze the running rails and electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and a smooth operating surface. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards

Both planned preventative and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward, and Richmond), and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward shop also performs accident damage, component and heavy repairs. A fifth maintenance facility, located between Lake Merritt and Fruitvale Stations (Oakland Shops), provides support to buildings, grounds, and equipment other than rail vehicles.

Figure 1 -1

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

FISCAL YEAR 1998

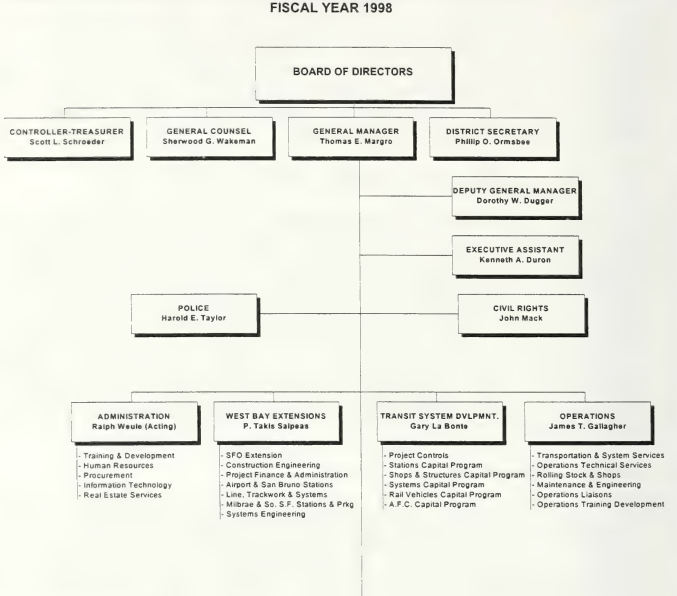


Figure 1 - 2

BART GOALS

1. Provide safe, reliable, high-quality and economical transportation service to the Bay Area community.

2. Deliver user-friendly services to all our customers.

3. Empower employees to function as owners of the BART organization.

4. Provide an environment free of impediments to opportunities for employees and disadvantaged business enterprises, and one which encourages cooperation and develops an organizational team of highly motivated staff.

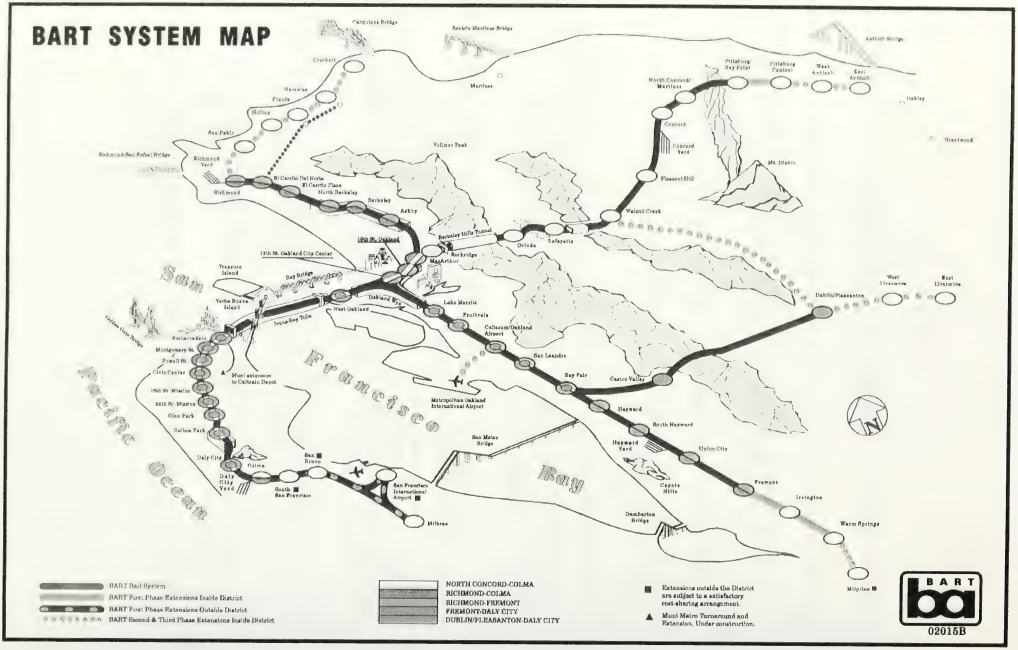
5. Develop BART services and facilities to expand District markets and capture new revenue sources.

6. Secure and manage the funds necessary to maintain and expand the system and to operate BART according to fiscally sound business practices.

7. Take the leadership role in integrating various features of regional transportation systems in policy, finance, and operations.

8. Build constituencies at all levels of government to support the BART organization and its programs.

Figure 1 - 3


BART SYSTEM MAP
Carquinez Bridge
Benicia-Martinez Bridge
Antioch Bridge
Crockett
Martinez
Pittsburg Bay Point
Pittsburg Center
West Antioch
East Antioch
Oakley
Byron
Brentwood
Marysville
Pittsburg
North Concord/ Martinez
Concord
Concord Yard
Pleasant Hill
Mt. Diablo
San Pablo
Richmond-San Rafael Bridge
Richmond Yard
Richmond
El Cerrito Del Norte
El Cerrito Plaza
North Berkeley
Berkeley
Ashby
Walnut Creek
Lafayette
Orinda
Berkeley Hills Tunnel
19th St. Oakland
MacArthur
Rockridge
12th St. Oakland City Center
Treasure Island
Bay Bridge
Yerba Buena Island
Oakland Wye
Lake Merritt
Fruitvale
Dublin/Pleasanton
West Dublin
East Dublin
Transbay Tube
West Oakland
Coliseum/Oakland Airport
San Leandro
Bay Fair
Castro Valley
Hayward
South Hayward
Union City
Hayward Yard
Fremont
Irvington
Warm Springs
Milpitas
Montgomery St.
Powell St.
Civic Center
Muni extension to Caltrain Depot
16th St. Mission
24th St. Mission
Glen Park
Balboa Park
Daly City
Daly City Yard
Colma
San Bruno
South San Francisco
San Francisco International Airport
San Mateo Bridge
Dumbarton Bridge
Metropolitan Oakland International Airport
San Francisco Bay
Pacific Ocean
BART Rail System
BART Fwd. Phase Extensions Inside District
BART Fwd. Phase Extensions Outside District
BART Second & Third Phase Extensions Inside District
NORTH CONCORD-COLMA
RICHMOND-COLMA
RICHMOND-FREMONT
FREMONT-DALY CITY
DUBLIN/PLEASANTON-DALY CITY
Extensions outside the District are subject to a satisfactory cost-sharing arrangement.
Muni Metro Turnaround and Extension. Under construction.
BART
02015B

Revenue Vehicles

BART's current 669-car fleet consists of three types of vehicles: 135 control-equipped A-cars, 304 non-control B-cars, and 230 C-cars (the latter type consist of 150 C1s and 80 C2s, of which 18 are currently control equipped). A- and B-cars are BART's first generation vehicles, manufactured between 1971 and 1975. C-cars constitute BART's second and third generation fleet. C1-cars were manufactured between 1987 and 1990, and newer C2-cars in 1995 and 1996. Control equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 by 10.5 feet, and can be used as lead, mid-train, or trail vehicles. Trains are operated from the lead A- or C-car. Train movements are automatically controlled by computers located along the right-of-way. System train supervision is provided by BART's train control computer at the Operations Control Center, located in the Lake Merritt Administration Building in downtown Oakland. Train operators aboard each train can override the automatic system should the need arise.

Permissible train lengths range from three to ten cars. [The three-car minimum train length is a California Public Utilities Commission requirement.] The ten-car maximum length corresponds to station platform lengths. Resulting capacity is between 192 and 720 seated passengers for three and ten-car trains, respectively. Vehicle performance specifications include a maximum 80 mile per hour speed. Revenue service is based on a 70 mile per hour maximum speed. The systemwide average speed for revenue service, including stations stops, is 36 miles per hour.

Stations and Parking

The system consists of 39 stations, 14 of which are in subway, 13 elevated, and 12 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. On average, stations are spaced between one half to one mile apart within and adjacent to San Francisco, Oakland, and Berkeley downtown areas, and two to ten miles apart in suburban areas.

Stations are accessed by stairways, elevators and escalators which link various levels to streets, connecting local transit, and parking areas. Automatic fare collection equipment is located in each station, to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information with regard to train schedules, local area destinations, connecting transit, and other information to assist BART riders. A public address system linked to BART's Operations Control Center is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Depending upon location, station access facilities include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks, and parking. Parking is an important feature at suburban stations where a majority of BART riders arrive by auto. BART's station parking inventory (Figure 1-4) consists of 41,984 free spaces at 28 stations and 246 spaces at Lake Merritt Station at a daily charge of 25¢.

Administration/Operations Control Center

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland, above Lake Merritt Station. This facility also houses BART's Operation's Control Center (OCC) and central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer at OCC provides overall systemwide supervision of train movements. BART's OCC is an around-the-clock operation. Train controllers and other BART certified personnel located in OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between OCC and all train operators. A telephone system provides voice communication to station agents. Remote cameras located at key points allow OCC personnel to visually monitor train movements and activities in and around stations.

BART RAIL SERVICE DESCRIPTION

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. Closing times for individual stations are coordinated with the schedule for the last train departure beginning approximately at midnight. Figure 1-5 summarizes the rail service provided by route on weekdays and weekends. Depending upon demand, holiday rail service is either operated on a full or modified weekday schedule, or Saturday or Sunday schedule. BART service is also coordinated with major Bay Area events. Depending upon demand, additional rail service for special events is provided by either lengthening regularly scheduled trains, placing additional trains in service, or providing revenue operations at times when the system is normally closed (e.g., early-Sunday morning opening for the annual Bay-to-Breakers footrace in San Francisco).

EXPRESS BUS SERVICE DESCRIPTION

Effective July 1, 1997, BART will transition most of its express bus service to local public transit operators. On an interim basis, BART will contract to provide express bus service on three routes along the Interstate-80 corridor in Contra Costa County. Express bus route *J* operates daily between El Cerrito del Norte Station and serves Pinole, Hercules, and Rodeo. Additional weekday commute hour service along this same general route is provided by routes *JX* and *Q*.

Figure 1 - 4

BART PARKING SPACE INVENTORY

PARKING EXPANSION PLANS AT EXISTING & FUTURE STATIONS

EXISTING STATIONS	SPACES AS OF JUNE 97	PLANNED FOR FY98 - FY08	TOTAL PROJECTED BY FY08
SAN FRANCISCO LINE:			
Colma	2,237	0	2,237
Daly City	1,990	0	1,990
Glen Park	54	0	54
West Oakland (a)	419	0	419
Subtotal	**4,700**	**0**	**4,700**
FREMONT LINE:			
Fremont	2,494	0	2,494
Union City (b)	1,180	0	1,180
South Hayward	1,307	0	1,307
Hayward	1,896	0	1,896
Bay Fair	1,822	0	1,822
San Leandro	1,332	0	1,332
Coliseum	1,084	0	1,084
Fruitvale (b)	1,103	0	1,103
Lake Merritt	246	0	246
Subtotal	**12,464**	**0**	**12,464**
RICHMOND LINE:			
Richmond	799	0	799
El Cerrito del Norte	2,518	0	2,518
El Cerrito Plaza (c)	766	400	1,166
North Berkeley	870	0	870
Ashby	626	0	626
MacArthur	608	0	608
Subtotal	**6,187**	**400**	**6,587**
CONCORD LINE:			
Pittsburg/Bay Point	2,030	0	2,030
North Concord/Martinez	1,939	0	1,939
Concord	2,513	0	2,513
Pleasant Hill (d)	2,869	0	2,869
Walnut Creek	1,966	0	1,966
Lafayette	1,521	0	1,521
Orinda	1,411	0	1,411
Rockridge (b)	886	0	886
Subtotal	**15,135**	**0**	**15,135**
DUBLIN LINE:			
Castro Valley	1,125	0	1,125
Dublin/Pleasanton	2,619	0	2,619
Subtotal	**3,744**	**0**	**3,744**
EXISTING STATIONS TOTAL	**42,230**	**400**	**42,630**
WEST BAY EXTENSION STATIONS:			
South San Francisco	0	1,337	1,337
San Bruno	0	1,000	1,000
San Francisco Airport	0	0	0
Millbrae	0	3,000	3,000
EXTENSION STATIONS TOTAL	**0**	**5,337**	**5,337**
SYSTEM GRAND TOTAL	**42,230**	**5,737**	**47,967**

(a) A future parking project is subject to reavaluation and identification of a funding source.

(b) No plans are identified for Union City, Fruitvale, and Rockridge stations.

(c) Contra Costa County Measure C provides funding for parking expansion in the City of El Cerrito. BART and the City are studying a possible future 400-space parking project at the El Cerrito Plaza Station.

(d) Improved parking at Pleasant Hill Station added 581 temporary spaces as a construction mitigation measure during I-680/24 reconstruction. This temporary parking is not reflected in the station total for Pleasant Hill.

Figure 1 - 5

BART RAIL HEADWAYS AND HOURS OF SERVICE

Effective May 10, 1997

	TRANSBAY ROUTES				EAST BAY ROUTE	DOWNTOWN SAN FRANCISCO
	Pittsburg/Bay Point-Colma	Fremont-Daly City	Dublin/Pleasanton-Daly City	Richmond-Daly City (a)	Fremont-Richmond	City Center Segment
***HEADWAYS** (minutes)*						
WEEKDAY						
Peak Hour	5.0	15.0	15.0	15.0	15.0	2.7
Midday	15.0	15.0	15.0	15.0	15.0	3.8
Night	20.0	(b)	20.0	(b)	20.0	10.0
SATURDAY						
Daytime	20.0	20.0	20.0	20.0	20.0	5.0
Night	20.0	(b)	20.0	(b)	20.0	10.0
SUNDAY						
All Day	20.0	(b)	20.0	(b)	20.0	10.0
***SERVICE HOURS** (time)*						
WEEKDAY						
First Train leaves	03:59	05:05 (c)	03:58	04:56 (c)	04:00	04:20
Last Train arrives	01:21	21:23 (c)	01:26	21:01 (c)	01:27	01:07
SATURDAY						
First Train leaves	06:00	08:44 (c)	06:03	07:46 (c)	05:56	06:00
Last Train arrives	01:21	20:29 (c)	01:26	20:09 (c)	01:27	01:07
SUNDAY						
First Train leaves	08:00	(b)	07:57	(b)	07:56	08:16
Last Train arrives	01:21	(b)	01:26	(b)	01:27	01:07

(a) Peak period service on this route is extended to Colma.
(b) Route not in service during identified time period. Travel is accommodated on other routes with one transfer in downtown Oakland.
(c) Earlier and/or later service is available on other routes. Travel is accommodated on other routes with one transfer in downtown Oakland.

ADA PARATRANSIT SERVICE DESCRIPTION

As required by the Americans With Disabilities Act (ADA), BART provides curb-to-curb paratransit service for eligible disabled persons throughout the service area. In the East Bay, BART and AC Transit jointly operate the East Bay Paratransit Consortium using a fleet of dedicated sedans and lift equipped vans. In other parts of the District's service area, BART contracts with the local transit operators to provide service to eligible patrons. Transbay service is provided through the East Bay Paratransit Consortium. Requests for service are generally by reservation, one to seven days in advance of the trip.

BART FARE COMPONENTS AND TICKET PRICES

The individual components of BART's fare structure are summarized in Figure 1-6, with station-to-station fares shown in Figure 1-7. The following presents information on BART fares for rail, express bus, and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula. Surcharges are applied for Transbay travel and trips originating from or destined to Daly City and Colma Stations, which are located in San Mateo County (San Mateo County is not a full participating member of the BART District). An additional *speed-premium* adjustment is made to fares, based on the scheduled speed of a trip versus the systemwide average. BART's base rail fare is currently $1.10 for the shortest trips within downtowns and other local areas. As shown in Figure 1-7, the highest rail fare is $4.70 for the 45-mile Transbay trip between Colma and Pittsburg/Bay Point.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 can ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may purchase a $32 or a $48 high-value ticket for $30 or $45, respectively, a savings of 6.25%.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/MUNI FastPass allows unlimited use of San Francisco Municipal Railway services and BART within the City of San Francisco. The price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART, BART express bus, and other Bay Area transit systems which serve BART rail stations.

Fares for BART express bus and ADA paratransit services are also shown in Figure 1-6. ADA fares for paratransit service provided through the joint BART/AC Transit *East Bay Paratransit Consortium* are distance based, and range from $2.25 for trips less than eight miles to a maximum of $6.75 for trips of up to 24 miles. The ADA limits the fare that can be charged for ADA service to twice the full adult fare for a comparable fixed route trip.

Figure 1 - 6

BART FARE COMPONENTS AND TICKET PRICES

As of July 1, 1997

TRIP LENGTH:	Up to 6 miles		$1.10
	Between 6 and 14 miles [1]		$1.34 + 9.9¢/mile
	Over 14 miles		$2.13 + 5.9¢/mile
SURCHARGES:	Transbay		66¢
	San Mateo County [2]		76¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time		±3.7¢/minute
RESULTING FARES:	Range [3]		$1.10 to $4.70
	Average fare (before discounts) [4]		$2.18
	Average fare paid (after discounts) [4]		$1.95
RAIL FARE	Children under 5		Free
DISCOUNTS & SPECIAL FARES: [5] (high-value tickets)	Children 5 through 12 (75% discount)		$4.00 ($16 value)
	Persons 65 and over (75% discount)		$4.00 ($16 value)
	Persons with qualifying disability (75% disc.)		$4.00 ($16 value)
	Regular adult (6.25% discount)		$30 & $45 ($32 & $48 value)
	Excursion (entry/exit, same station) [6]		$3.80
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [7]		$28 to $61 (8 denominations)
MONTHLY RAIL/ SF MUNI PASS: [8]	FastPass -- (within San Francisco, unlimited monthly use of BART and MUNI)		$35
ONE-WAY TRANSFERS TO: [9] (issued at rail stations)	BART Express Bus		60¢ ($1.10 base fare)
	CCCTA		50¢ ($1.00 base fare)
	Union City Transit		25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM: [9] (issued at rail stations)	AC Transit:	From BART	$1.00 ($1.25 base fare)
		To BART	$1.00 ($1.25 base fare)
	SF MUNI, within SF:	From BART	$1.00 ($1.00 base fare)
		To BART	Free ($1.00 base fare)
	SF MUNI, Daly City Station:	From BART	Free ($1.00 base fare)
		To BART	Free ($1.00 base fare)
BART EXPRESS BUS:	Children under 5		Free
	Children 5 through 12		20¢
	Regular Adult		$1.10
	Persons 65 and over		20¢
	Persons with a qualifying disability		20¢
ADA SERVICE:	East Bay Paratransit Consortium [10]		$2.25 to $6.75
	BART/MUNI Cost-Sharing Agreement [11]		80¢ to 90¢ approximately
	All other areas		$1.00 to $6.00 approximately

Figure 1 - 6

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (certain station pairs between Pittsburg/Bay Point and Orinda, Fremont-Bay Fair, Richmond-Ashby, and Dublin/Pleasanton-Bay Fair) are priced at the fare indicated for trips under 6 miles.

2. The San Mateo County surcharge does not apply to Transbay trips.

3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The range of fares is based on the adopted fare resolution for the fare increase effective April 1, 1997. Prior fare increases occurred on April 1, 1996, April 1, 1995, January 1, 1986, September 8, 1982, June 30, 1980, and November 3, 1975.

4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco MUNI FastPass. The figures shown are for FY97.

5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program. In-station sales booths at Montgomery, Embarcadero, Powell, Colma, Walnut Creek, and North Concord/Martinez also sell a variety of ticket types. BART's Pass Office sells all ticket types via mail order.

6. There is a three-hour limit on the excursion fare.

7. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides on BART express bus and seven other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, MUNI, SamTrans, Contra Costa County Transit Authority, Santa Clara Valley Transportation Authority, Union City Transit, Dumbarton Express, and West CAT. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.

8. BART began accepting the regular adult MUNI FastPass for BART travel within San Francisco on April 1, 1983 (discounted FastPasses are not valid on BART). FastPasses are sold at stores, places of employment, and other outlets in San Francisco.

9. Except for the two-part $1.00 (round trip) MUNI transfers issued in San Francisco stations, all other one-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare (the full adult price when not using a transfer). The fare savings with the transfer is equal to the base fare less the additional fare paid to the connecting transit system.

10. BART and AC Transit have formed the East Bay Paratransit Consortium, which provides service to eligible BART customers in service areas that overlap with AC Transit.

11. BART has executed a cost-sharing agreement with San Francisco which permits eligible BART customers to use paratransit service provided by MUNI for travel within the City and County of San Francisco. Taxi service is provided to customers at 10% of the meter rate, averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00.

Figure 1 - 7

BART INTER-STATION FARES

Effective April 1, 1997

Chapter 2

RIDERSHIP FORECAST

and

PLANNED SERVICE

BART's ridership forecast is the key driver in the formulation of service plans and the capital program required to support the necessary operating plant and equipment. Accordingly, this chapter begins with a discussion of factors which influence ridership. Within this context, the ridership forecast for the current Short Range Transit Plan (SRTP) period is presented. This is followed by the Rail Service Plan which includes a description of the service developed to accommodate core system and extensions ridership growth. The last two sections of this chapter describe service plans for BART express bus and ADA paratransit service.

RAIL RIDERSHIP FORECAST ASSUMPTIONS

Key factors used to forecast ridership include regional growth, BART fares, train load factors, the quality of rail service provided, changes in competing markets (e.g., auto travel times and costs), the schedule for starting service on extensions, and subsequent extension ridership phasing. The forecast also incorporates projected patronage for the San Francisco Airport extension, as detailed in the June 1996 Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/FEIS).

Regional Growth Assumptions

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are based upon the Association of Bay Area Government's (ABAG) population and employment forecasts, as published in its *Projections '96 Update*, and the Metropolitan Transportation Commission's (MTC) regional travel model. Ridership propensity, measured in transit trips per demographic unit of population and employment, is established for current data and applied to station area projections.

BART Fares

The SRTP ridership forecast projects annual and average weekday trips for each fiscal year in the current SRTP planning period. This forecast reflects the impact of the fare package adopted by the BART Board in January 1995. This includes the following key components, all of which have been implemented:

- 15.0% fare increase, effective April 1, 1995.
- Reduction in elderly, disabled, and children fare discounts from 90% to 75%, effective April 1, 1995.
- 13.0% fare increase, effective April 1, 1996.
- 11.4% fare increase, effective April 1, 1997.
- No fare increase in FY98.

Load Factors

The service plans presented in this SRTP provide sufficient peak period capacity to maintain actual current load factor conditions for all peak period trains throughout the ten year planning horizon. Reflected is an operational load factor target such that, where possible, peak hour transbay load factors average 1.35 or less. Given BART's practice of modular train sizing, this level is equivalent to or slightly better than current service load factors in the peak hours. As planned, load factors for all trains, on average during the three-hour peak period, are expected to meet the District load factor objective of 1.15. During the peak of the peak hour, some trains will operate at higher load factors, as they do now, due to system throughput constraints. Offpeak load factors are targeted to average 1.00 or less.

Travel Times

The faster run times made possible as of June 1992 by the System Throughput Enhancement Program (STEP) have been carried forward through FY02. In FY02, Advanced Automatic Train Control (AATC) is assumed to be operational on the M-Line (Daly City through West Oakland) and upper A-Line (Bay Fair through West Oakland) of the system. Degradation of auto travel times is also assumed, reflecting increased highway congestion, as growth in demand outstrips programmed highway improvements. This assumption is consistent with the MTC travel model.

Extensions Service

This SRTP's ridership and financial forecasts are based on the information available in May 1997, which includes the opening of three new rail stations in FY97: Pittsburg/Bay Point Station on December 7, 1996 and Castro Valley and Dublin/Pleasanton stations on May 10, 1997. The first two extension stations, North Concord/Martinez and Colma, have been in operation since FY96. The San Francisco Airport Extension of rail service south of Colma Station, consistent with the adopted project, is assumed to open in FY02.

The FY98 SRTP ridership and operating financial forecasts reflect only the above rail extensions, and do not include operations of any other rail facilities or services identified in BART's Capital Improvement Program. Those projects include the West Dublin/Pleasanton Station, Warm Springs Extension, BART/Oakland Airport Connector, Pittsburg/Bay Point to Railroad Avenue, West Contra Costa County Extension, and extensions to points further east in Contra Costa and Alameda counties. The District will continue to seek funding for those projects, and will include corresponding operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

It is assumed that the relationship between the supply and demand for BART station parking remains relatively unchanged. Currently, the 39 BART stations have 42,230

parking spaces. As identified in Figure 1-4, BART plans call for adding 5,837 parking spaces with the opening of the four San Francisco Airport extension stations in FY02, and 400 additional spaces for core system parking expansion. It is also assumed that transit services operated by other Bay Area agencies which provide feeder bus services to BART will approximate current levels.

RAIL RIDERSHIP FORECAST

As shown in Figure 2-1, ridership at current fares is projected to increase from a budgeted 76.9 million trips in FY98 to 107.0 million trips in FY08.

Core System Ridership

Using the assumptions outlined above, the resulting ridership forecast for the core system is for 89.6 million trips in FY08. This 2.2% annual growth from the FY98 preliminary budget of 71.8 million trips reflects extension station riders exiting at core system stations and 1.5% base core system growth.

Extensions Ridership

Ridership for extensions is consistent with the MTC regional travel model and San Francisco Airport Extension environmental documentation for Locally Preferred Alternative VI, Aerial Design Option. In FY08, passenger exits at the nine extension stations are expected to be 17.4 million. The incremental ridership for the Phase I rail extensions is summarized as follows:

Alameda and Contra Costa County Extensions

Along with the recently opened Castro Valley and Dublin/Pleasanton stations, ridership for the North Concord/Martinez and Pittsburg/Bay Point stations is budgeted at 3.3 million trips on the BART system in FY98. This figure includes an anticipated 36-month phase-in to full ridership levels for each extension station. Ridership for these four stations is forecast to increase to 6.0 million trips in FY08.

San Mateo County Extension:

Colma Station is budgeted at 1.9 million trips on BART in FY98. In FY01, the last full year before the start of service to four additional stations along the San Francisco Peninsula, Colma Station ridership is forecast to grow to 2.2 million trips. In FY08, the five Peninsula extension stations south of Daly City are forecast to generate 11.4 million BART trips.

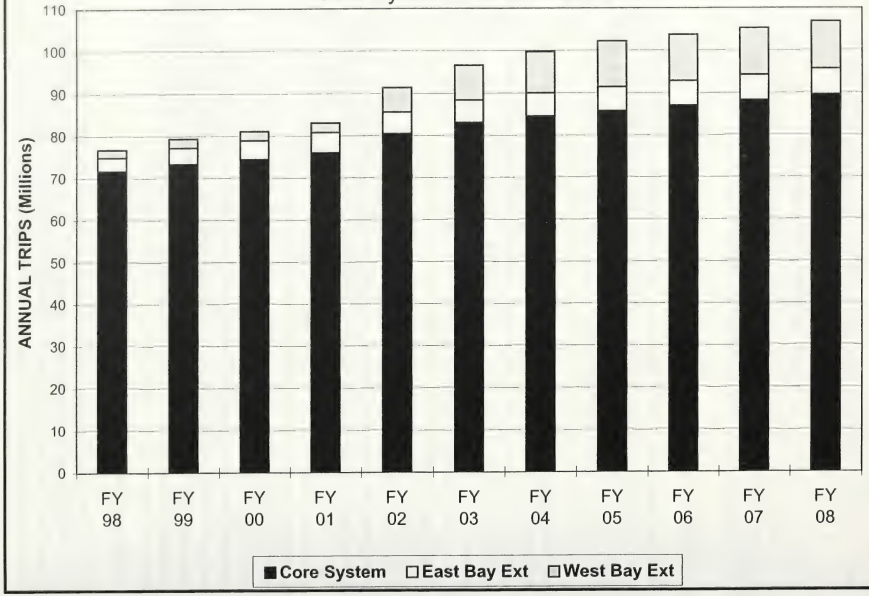
Systemwide Ridership

By FY02, the BART system will have 43 stations and 101 miles of double mainline track. Systemwide ridership is forecast to increase 39.1% (i.e., 3.4% annually), from a budget of 76.9 million trips in FY98 to 107.0 million in FY08.

Figure 2 - 1

BART RIDERSHIP FORECAST

Core System and Extensions



RAIL SERVICE PLAN

Ridership growth over the SRTP forecast period for both the core system and extensions will require a larger fleet, more trains, and more frequent service relative to today's schedule. Figure 2-2 summarizes how BART plans to expand service to insure that sufficient capacity is available to accommodate the projected 39.1% gain in ridership, from 76.9 million trips budgeted for FY98 to 107.0 million trips in FY08. Key elements of this expansion plan, the details of which are presented below, call for:

- Increasing BART's fleet from 669 vehicles currently to 697, with receipt of 28 more cars as part of the extension to the San Francisco Airport.

- Adding 19 trains to BART's peak period schedule, increasing the maximum number of online trains from 56 currently to 75, including 1 shuttle train from Millbrae Station to the San Francisco Airport.

- Increasing transbay service from the current schedule of 22 trains per hour to 27 per hour. This throughput will require reducing the system's minimum headway capability from two-minutes fifteen seconds currently, to two minutes or less by FY02. This improvement will effectively allow for increasing transbay service to 30 trains or more per hour.

Achievement of this service expansion is predicated on the timely implementation BART's capital improvement program as documented in the FY98 CIP. This CIP reflects the operational parameters and requirements presented in the SRTP. Together, these documents advocate and support BART's grant applications for project funding, system renovation and improvements needed to keep the core system in top condition, complete extensions, and implement other upgrades and enhancements needed to support expanded operations. The following are some of the highlights from BART's FY98 *Capital Improvement Program* to support this expansion (see *CIP* for details):

- Rebuilding the original 439 A- and B-cars.

- Renovation of stations, including automatic fare collection (AFC) equipment, escalators, and elevators.

- ADA accessibility improvements, including other elevator enhancements, parking, and signs.

- Renovation and replacement of communications and train control systems, including implementation of AATC on the M and upper A lines to support two-minute minimum scheduled headway service and faster train run times.

- Renovation and expansion of shops and yards, and replacement of maintenance and other essential equipment.

Figure 2 - 2

PEAK PERIOD TRAINS AND CARS ONLINE

FY97 ACTUAL, FY98 - 08 PROJECTED (a)

TOTAL ONLINE TRAIN SUMMARY, BY ROUTE

		FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08
RED	*Richmond*	9	9	9	9	9	13	13	13	13	13	13	13
YELLOW	*Pittsburg/Bay Pt.*	19	19	21	21	21	26	26	26	26	26	26	26
GREEN	*Fremont*	9	9	10	10	10	12	12	12	12	12	12	12
BLUE	*Dublin/Pleas.*	9	9	9	9	9	11	11	11	11	11	11	11
TRANSBAY Subtotal		46	46	49	49	49	62	62	62	62	62	62	62
ORANGE	*East Bay*	10	10	10	10	10	12	12	12	12	12	12	12
MB-SFIA SHUTTLE		---	---	---	---	---	1	1	1	1	1	1	1
SYSTEM TOTAL		56	56	59	59	59	75	75	75	75	75	75	75

TOTAL ONLINE CAR SUMMARY, BY ROUTE (b)

		FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08
RED	*Richmond*	90	90	84	84	84	97	97	97	97	97	97	97
YELLOW	*Pittsburg/Bay Pt.*	190	190	206	206	206	252	254	254	254	254	254	254
GREEN	*Fremont*	74	74	76	80	80	80	80	80	80	80	80	80
BLUE	*Dublin/Pleas.*	63	63	64	64	64	72	72	72	72	72	72	72
TRANSBAY Subtotal		417	417	430	434	434	501	503	503	503	503	503	503
ORANGE	*East Bay*	63	63	63	63	63	51	51	51	51	51	51	51
MB-SFIA SHUTTLE		---	---	---	---	---	3	3	3	3	3	3	3
SYSTEM TOTAL		480	480	493	497	497	555	557	557	557	557	557	557

(a) Service levels as of June 30 of each fiscal year.

(b) Changes in midday train lengths, which drive modular sizing patterns (ie: 5/5/10, 4/3/7), cause fluctuations in car requirements by route by fiscal year.

Fleet Management Plan

BART is required to submit a Fleet Management Plan (FMP) to the Federal Transit Administration (FTA) annually. The purpose of the document is to define the current and projected BART revenue vehicle fleet size and operating spare ratio. It includes a description of revenue service planned to accommodate extensions and forecast growth in patronage, as well as an assessment and projection of needs for vehicle maintenance. The same rail service plans and operating assumptions were developed for both the FMP and the SRTP. Detailed information regarding the balancing of vehicle demand and supply can be found in the latest FMP, dated May 22, 1996.

Car Requirements

Future vehicle requirements were forecast using BART's *Service Planning Model* which allocates system capacity by route. The model projects maximum trains on line, cars required and estimated car miles for each fiscal year. As shown in Figure 2-2, BART's online car requirements are forecast to increase from 480 currently to 557 in FY08, reflecting the addition of 19 peak period trains over today's 56. It is also assumed that the fleet size will increase from 669 vehicles currently to 697 by the time service to San Francisco Airport begins in FY02. Based on the assumptions used in this forecast, as discussed below and shown in Figure 2-2, BART is anticipated to have a sufficient number of vehicles to meet projected demand.

Load Factors

Required capacity is determined by accommodating projected peak period passengers at maximum screenlines at policy load factors. Maximum screenlines are points on each route where the largest number of passengers travel between two adjacent stations. As stated previously, the service plans in this SRTP are based on maintaining current peak period load factor conditions on all peak trains. This means systemwide averages no greater than a 1.35 load factor during peak hour operations, 1.15 during the shoulder periods, and a maximum load factor of 1.00 for off-peak service. Note that these load factors represent *targets*. Actual allocation of capacity may differ slightly as impacted by system operating constraints, special requirements, and/or other considerations as discussed below.

Captive Fleet Program

BART's *Captive Fleet Program,* which assigns individual cars to a specific maintenance shop, has helped improve vehicle reliability and will become even more important as the fleet expands. Accordingly, the service plans presented in this document return cars to the same yard from which they were dispatched earlier in the day.

Modular Train Sizing

The service plans also respect *modular train sizing*. BART has developed and uses this operating strategy to maximize reliability and flexibility and to minimize labor requirements in the yards for altering train lengths throughout the day. Currently, BART sizes trains on a *5/10, 4/7,* and *4/8* basis for transbay service and on a *3/6/9* basis for the East Bay

route. The transition from the morning peak to midday service, for example, can easily be accommodated by splitting a 10-car train in half to form two 5-car trains, or breaking a 4-car train from a 7-car train. On the East Bay route, 9-car trains can be split up into combinations of 3- and 6-car trains. The transition from midday to the afternoon peak service involves the reverse procedure.

Minimum Service Frequencies

In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service would be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: Pittsburg/Bay Point-Colma, Dublin/Pleasanton-Daly City, and Richmond-Fremont.

Service by Route and Extension

Figure 2-2 shows the planned expansion in the number of routes, and the number of trains and revenue vehicles. Note that each route has a *color designation* depicted on system route maps located in each BART car and station, as well as in information brochures. The service plans assume the four station San Francisco Airport extension opens in September 2001 (FY02). BART expands capacity first by lengthening existing trains and then, as headway reduction capability and fleet expansion permit, by adding more trains and adjusting train lengths. Car and train requirements are based on the following service assumptions:

- *YELLOW LINE*, Pittsburg/Bay Point-Transbay Route. Service to Pittsburg/Bay Point Station is provided at a frequency of no less than a train every 15 minutes north of Concord Station and south of Daly City Station. Higher frequency service is added between Concord and Daly City stations to maintain load factors.

- *RED LINE*, Richmond-Transbay Route. Service south of Daly City Station to Colma Station is provided during peak periods only, and is an extension of Richmond-Transbay service, at a service frequency no greater than a train every 15 minutes. During the off-peak, service on this route terminates at Daly City Station.

- *GREEN LINE*, Fremont-Transbay Route. Service is planned to operate on this route as it is currently, at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Fremont.

- *BLUE LINE*, Dublin/Pleasanton-Transbay Route. Service is planned to operate on this route as it is currently, at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Dublin/Pleasanton.

- *ORANGE LINE*, Richmond-Fremont Route. Service is planned to operate on this route as it is currently, with trains serving the East Bay between Richmond and Fremont stations.

- *MILLBRAE-SAN FRANCISCO AIRPORT SHUTTLE,* A three-car shuttle will be operated between these two stations when service south of Colma opens in FY02.

Symmetrical Route Merging and Headways

Trains merging from individual routes onto common track through downtown Oakland require symmetrical headway operations. Thus, service must be provided on each route at the same headway or one that is an even multiple of it. These current headways reflect the improvements of STEP, which modified the train control blocking system and made other changes to permit closer headways. It is assumed that once any given route requires closer-headway service at higher frequencies, headways will be adjusted for all other routes to maintain proper train merging.

The minimum sustainable headway in the transbay tube is currently 2 minutes and 15 seconds. In FY02, transbay patronage demand is anticipated to require additional peak period trains, up from four trains per hour to five. Peak period headways on all routes are then planned to be reduced from a train every 15 minutes to one every 12 minutes. This translates to schedules using five trains per hour on each of the *Red Line, Green Line,* and *Blue Line*. The one exception is service on the *Yellow Line* which is to be provided at a higher frequency during peak periods, due to patronage demand. Three train slots are expected to remain available for future expansion of service beyond the level planned for FY08. In addition, extra peak period trains will be short-turned on the *Yellow Line,* to be used a second time during the peak period. This reduction in headways results in an increase in the number of online trains and effectively reduces average train lengths.

BART's *Advanced Automatic Train Control*, now under development, is expected to reduce train run times and allow headways to be reduced to 2 minutes, with a peak hour transbay service capability of 30 trains per hour. In the event that AATC is not implemented or is delayed, alternative service plans have been developed, capable of serving the projected patronage with the vehicles available, although at significantly higher load factors.

Maintenance Requirements

During FY97, BART had an average of 128 cars in for maintenance at any given time. It is assumed that with the A- and B-car renovation and capital investment into BART maintenance shops, the number of cars in for unscheduled maintenance will decrease. With the projected expansion of the fleet to 697 by FY02, the number of cars in for maintenance for the SRTP planning period will range from 97 to 116. This assumes that scheduled capital improvements, discussed in the CIP, are made to maintenance shops to increase output.

Yard Logistics Cars

Ideally, BART allocates two cars each for the Concord, Richmond, Hayward, and Daly City maintenance yards for logistical moves in assembling and disassembling trains. Accordingly, eight cars have been carried forward throughout the planning period for this purpose.

Ready Reserve Cars

Ready reserves are cars used to form trains which are placed in stand-by mode in the event operational problems occur. With the opening of the Dublin/Pleasanton Extension, four eight-car ready reserve trains are stationed in each yard. Service plans presented in this SRTP also assume that ready reserve vehicles are to be used in revenue service when car deficits arise. Note that, through mid FY02, up to 36 vehicles are continually rotated out of the fleet in accordance with the schedule for completing the A- and B-Car Renovation Program. Once this program is completed in May 2002, the 36 cars will no longer be rotated out the fleet, but will be used to maintain a higher number of ready reserve vehicles. However, forecast growth in demand gradually consumes the available vehicles, so ready reserves are again reduced from the current level towards the end of the planning period.

EXPRESS BUS SERVICE PLAN

In keeping with the spirit of the recently enacted Transit Consolidation Bill (SB 1474), BART has sought to consolidate its express bus service with local transit operators. BART's current agreement with its contract provider, Laidlaw Transit Services, Inc., was due to expire on January 15, 1997. In November 1996, staff negotiated a change order to the Laidlaw agreement for a period not to exceed 15 months, allowing BART staff to explore operational alternatives for express bus services with local transit operators. In January 1997, the BART Board authorized the extension of the Laidlaw contract through June 30, 1997, and directed staff to proceed with the development of transition plans with each affected public transit operator. In February and March 1997 the Board adopted transition plans for the Livermore Amador Valley Transit Authority (LAVTA), the Central Contra Costa Transit Authority (CCCTA), and the Eastern Contra Costa Transit Authority (ECCTA). The service agreement with LAVTA became effective April 1, 1997. The agreements with CCCTA and ECCTA were implemented on July 1, 1997. The Western Contra Costa Transit Authority (WestCAT) requested an implementation start date of January 1, 1998, in order to resolve transition issues.

As a result, in FY98 BART will continue to provide express bus service by contract with Laidlaw to the Interstate-80 corridor on three routes between BART's El Cerrito del Norte Station and Pinole, Hercules, and Rodeo. Route J operates daily between its southern terminal at El Cerrito del Norte Station and Pinole and Hercules to the north. Route JX operates on weekdays, during peak hours only, between El Cerrito del Norte Station and Pinole and Hercules. Route Q operates on weekdays, during peak hours only, between El Cerrito del Norte Station and Pinole.

ADA PARATRANSIT SERVICE PLAN

As of January 1997, BART is in full compliance with the federally mandated Americans with Disabilities Act requirement to provide paratransit service within the BART service area. Federal regulations define the ADA paratransit service area as being within a 0.75 mile corridor on each side of a BART express bus route or a 0.75 mile radius around a BART station.

Persons eligible for ADA paratransit service are able to make a reservation for a ride at least one day before and up to seven days in advance. A standing order may be used for trips made regularly to and from the same place, at the same time and day of the week. Dedicated sedans and vans and/or taxis are used to provide trips. Transbay service is available through the East Bay Paratransit Consortium to destinations in San Francisco. Regional ADA paratransit service is available throughout BART's service area and is coordinated with AC Transit, CCCTA, ECCTA, LAVTA, MUNI, Union City Transit and WestCAT.

The data below summarize BART's share of anticipated annual ridership during FY98.

SERVICE AREA	RIDERSHIP
East Bay Paratransit Consortium (31% of the program total)	202,000
San Francisco MUNI (8.8% of the program total)	100,500
Contra Costa (not including service provided by Fixed Route Operators)	30,000
Other East Bay service	13,000
TOTAL ANNUAL RIDERSHIP	**345,500**

Chapter 3

FISCAL YEAR FORECAST

and

FINANCIAL PLAN

BART's SRTP financial plan for FY98 through FY08 focuses on the fiscal requirements for providing service as described in Chapter 2. The financial plan was developed in conformance with the Metropolitan Transportation Commission's guidelines for preparing SRTPs. Key guidelines specify that SRTP's be financially constrained and balanced, and that they include MTC's forecasts for regional funding and unit cost growth. BART's SRTP financial plan reflects these considerations. Sources are identified for revenue, expense, financial assistance, debt service, and other required allocations. Underlying assumptions upon which the SRTP forecast is based are also discussed.

The FY98 budget is presented first, and is the foundation for the ten year projections. Following the FY98 budget is a discussion of the principles used to develop the District's financial forecasts for FY99 through FY08. The base financial forecast is then identified, and is followed by a discussion of alternative futures which have been developed for planning purposes.

It should be noted that the following financial plan includes the impact of the Colma and San Francisco Airport Extension operating cost formulas contained in the BART-SamTrans Comprehensive Service Agreement Amendment dated June 20, 1996. Analysis indicates that the implementation of the San Francisco Airport Extension, in accordance with the terms of this new agreement, will not negatively impact the District's financial capacity to operate and maintain its existing system.

FOUNDATION OF THE SRTP FINANCIAL PLAN -- FY98 ADOPTED OPERATING BUDGET

The foundation and starting point for the SRTP ten year financial plan is BART's adopted budget for FY98, the operating portion of which is summarized in Figure 3-1. This financial statement provides for full support during the fiscal year for core system operations and extensions service. The FY98 adopted operating budget also funds BART's ADA paratransit deficit, bond debt service for systemwide renovation, and other needed allocations. The budget includes $330.5 million in operating revenue and financial assistance, balancing an equal amount of operating expense and debt service. BART's adopted FY98 operating budget provides funding to augment six key areas of emphasis which focus on improving customer satisfaction:

- Ticket vending machine maintenance
- Elevator and escalator maintenance
- Station cleanliness
- Elevator cleanliness
- Vehicle reliability
- Graffiti and vandalism

Figure 3 - 1

FY 98 BART ADOPTED OPERATING BUDGET

All Figures in Thousands of Dollars

REVENUE	
Net Rail Passenger Revenue	161,399.5
Express Bus / ADA Service Passenger Revenue	695.1
Total Net Passenger Revenue	**162,094.6**
Interest Revenue	7,278.4
Other Operating Revenue	3,807.3
Subtotal Non-Fare Revenue	**11,085.7**
Total Operating Revenue	**173,180.3**
EXPENSE	
Net Labor	210,181.0
Express Bus Service	1,885.7
Shuttle Service	102.0
Purchased Transportation	2,628.0
ADA Service	6,060.3
Power, Traction & Station	18,841.1
Other Non-Labor	46,743.1
Total Operating Expense	**286,441.2**
OPERATING DEFICIT	**(113,260.9)**
FINANCIAL ASSISTANCE	
Sales Tax	142,731.1
Property Tax	13,145.1
State Transit Assistance (STA)	1,074.5
Transportation Developmment Act (TDA)	427.5
San Mateo County Service Agreement	0.0
Total Financial Assistance	**157,378.2**
DEBT SERVICE & ALLOCATIONS	
System Renovation Bond Debt Service	(18,744.3)
90 & 91 Sales Tax Revenue Bond Debt Service	(20,073.0)
Capital & Other Allocations	(5,300.0)
Total Debt Service & Allocations	**(44,117.3)**
FINANCIAL RESULT	**(0.0)**

The adopted FY98 operating budget continues, in the spirit of prior year District budgets, with an emphasis on cost control. This commitment is reflected in the fact that costs are projected to increase only 3.3% over FY97, after adjusting for items new to the FY98 budget. This cost increase includes budgeting for 36 new positions, and compares favorably to the following projected output increases: passenger miles (4.4%) and car miles (19.3%).

On the revenue side, the adopted FY98 operating budget assumes no change to core system ridership except for the small patronage loss associated with the elasticity impact of the April 1997 11.4% fare increase. The adopted FY98 operating budget assumes 5.7% annual sales tax growth on FY97 actual receipts.

The FY98 budget also assumes 3.0% annual growth for property tax, based on first half receipts for FY97 and prior years receipts. The adopted FY98 operating budget continues to deliver on the promise not to use any of the proceeds from the Board adopted fare increases to balance the core system's financial requirements. The preliminary budget allocates the fare increase proceeds to fund BART's system renovation bond debt service, the ADA paratransit service deficit, and rail extensions operations.

FY98 Operating Revenue

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Net Passenger Revenue

Net passenger revenue for FY98 is budgeted at $162.1 million, and is 8.5% higher than FY97's actual revenue of $149.5 million. This gain reflects a full year of extensions ridership and a full year's impact of the April 1997 fare increase. Only $0.3 million in express bus revenue has been budgeted for FY98, reflecting recent Board action to transition the majority of contract bus service to local operators. ADA paratransit service passenger revenue is budgeted at $0.4 million in FY98.

Non-Fare Revenue

Revenue from sources other than passenger fares includes interest income on operating fund balances. This line item is budgeted at $7.3 million in FY98. Other non-fare revenue line items include concessions, advertising, rental and lease agreements, parking collections (at Lake Merritt Station and special events at Coliseum station), fines, and forfeitures. Revenue from these sources is budgeted at $3.8 million.

FY98 Operating Expense

Total operating expense for FY98, which includes service for five extension stations, is budgeted at $286.4 million, 7.0% above FY97's actual expenses of $267.7 million. This increase reflects the planned increases in passenger miles and car miles associated

with a full year of service to the three new stations opened during FY97 at Pittsburg/Bay Point, Castro Valley, and Dublin/Pleasanton (stations at Colma and North Concord/Martinez opened in FY 96).

Labor Expense and Staffing

Labor expense, which constitutes approximately 73.4% of BART's operating budget, is set to rise 11.1% from $189.1 million in FY97 to $210.2 million in FY98. This increase is primarily attributable to the following factors: renewal of pension payments to the Public Employees Retirement System (PERS) and reinstatement of the budgeting of annual holiday buyback, wage and benefit increases, a full year of operations for all five new extension stations, and the addition of 36 positions. Twenty-seven of the 36 positions relate to service and customer satisfaction improvements, including vehicle, ticket machine and elevator/escalator maintenance, and station and elevator cleanliness.

Express Bus and Shuttle Bus Service Expense

BART express bus and shuttle bus operations (with the exception of I-80 corridor service) was discontinued as of July 1, 1997. Buildup of prior year Sate Transportation Assistance (STA) and Transportation Development Act (TDA) funding will cover $1.5 million of the adopted budget expense of $1.9 million for FY98 direct BART I-80 corridor service. In contrast, FY97 actual expenses for express bus service was $7.8 million.

ADA Paratransit Service Expense

In January 1997, BART came into full compliance with federally mandated ADA paratransit service regulations. ADA paratransit services are budgeted at $6.1 million in FY98.

Purchased Transportation Expense

The MUNI Transfer payment expense is a reimbursement to MUNI for providing feeder bus service to BART stations in San Francisco. The current agreement which governs this reimbursement ties this payment to the growth in sales tax. This expense amounted to $1.8 million in FY97, and is budgeted at $1.9 million in FY98.

Patronage projections indicate that approximately 3.5 million trips will either originate or end at the Colma station during FY98, generating $4.0 million in net rail passenger revenue. After taking into account both patrons diverted from the Daly City station and net Colma operating expenses per the BART-SamTrans Comprehensive Agreement, the FY98 preliminary budget projects that a $0.7 million net operating surplus will be returned to SamTrans.

Power Expense

Station and traction power expense (including lease costs) constitute approximately 6.6% of the District's operating budget. Power expense is expected to increase 8.7%, from FY97's actual expense of $17.3 million to $18.8 million in FY98. Actual expenses in FY97 were significantly below the $21.5 million budgeted as a result of lower power rates from Pacific Gas and Electric's (PG&E) general rate reduction, and the purchase of power from Western Area Power Administration (WAPA). Staff is continuing to

negotiate with PG&E for a more permanent arrangement which may further effect these savings. In FY98, BART's contract with Bonneville Power will increase to 20 megawatt (MW), and the WAPA allocation will be 50MW. This budget assumes savings from these contracts totaling $4.9 million, including savings on the additional load for service to the Dublin/Pleasanton extension (DPX). This budget also includes savings totaling approximately $1.0 million annually, from the purchase of electric power substations on the Pittsburg/Antioch Extension (PAX) and DPX lines.

Other Non-Labor Expense

This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous items. These non-labor expense line items are budgeted at $46.7 million in FY98, compared to the FY97 actual expense of $47.8 million. FY97 expenses in this category were higher than anticipated as a result of a $3 million additional set aside for uninsured liabilities made in February 1997.

FY98 Financial Assistance

The District's FY98 operating budget includes $157.4 million from all sources of financial assistance; 5.4% over FY97's actual financial assistance of $149.3 million. The sources of this funding are as follows:

Sales Tax Financial Assistance

The sales tax rates in the current three-District counties include a 0.5% tax dedicated to transit operating subsidies. BART receives 75% of this amount, with the remaining 25% shared by MUNI and AC Transit. The FY98 budget of $142.7 million for sales tax financial assistance reflects 5.7% growth over FY97 actual collections of $135.0 million.

Property Tax Financial Assistance

BART also receives a portion of property tax proceeds in the three-District counties to cover operating expense. The FY98 preliminary budget set property tax revenue at $13.1 million, which is 3% higher than FY97's actual collection of $12.8 million.

State Transportation Assistance (STA)

STA assistance apportioned to BART has historically been allocated by MTC to pay for BART feeder service provided by AC Transit, the Dumbarton Express, and Golden Gate Transit's Richmond-San Rafael Bridge line. The FY98 budget assumes that this practice continues, and that the remaining STA funding apportioned to BART is available to cover $1.1 million of the net expense associated with BART's I-80 corridor express bus service.

Transportation Development Act (TDA) Financial Assistance

In recent years, BART has received TDA funds to help support annual express bus operations. In FY98 BART plans on claiming $0.4 million in TDA funds for paratransit expenses in lieu of making a claim for the remaining portion of the net expenses of BART's I-80 corridor express bus service.

FY98 Debt Service and Allocations

BART's financial requirements have traditionally included allocations from its operating budget for funding certain obligations. These obligations include bond debt service as well as direct contributions to the District's capital program. These line items are discussed as follows:

System Renovation Bond Debt Service

This line item is new to BART's operating budget as of FY97. It is for the debt service on the first two of three planned issues of bonds, the proceeds of which are to be used for system renovation and other portions of BART's capital program. The amount budgeted for this purpose in FY98 is $18.7 million.

1990 and 1991 Sales Tax Bond Debt Service

This expense is for servicing the debt on the 1990 and 1991 issues of bonds, the proceeds of which were used primarily for the District's capacity expansion program. This program included the purchase of 150 C-1 cars, construction of the Daly City turnback and yard, upgrades to train control, and the expansion of parking facilities. The FY98 adopted operating budget includes $20.1 million for this purpose. The annual debt service payments on these bonds will terminate in 2012.

Capital Program Allocations

In line with the adopted 1996 SRTP, the FY98 adopted operating budget projects a $5.3 million direct allocation to capital from operating sources, for uses other than for the bond debt service identified above.

PERS Reserve Account

Prior allocations, totaling $3.2 million from FY96 and FY97 will be carried forward to the FY99 operating budget. This carry forward will partially offset the impact of the required resumption of employee pension payments to PERS.

FY98 Financial Result and Indicators

The District's FY98 adopted operating budget is balanced, with sources of income equal to expense. Budgeted financial performance is favorable relative to levels achieved in prior years, and reflects efforts to contain costs and improve productivity for BART's core operations. The FY98 budget also reflects the impact of the fare increases adopted by the Board in January 1995, as a means of supporting system renovation, ADA paratransit service, and extensions operations.

Farebox Ratio

The farebox ratio is defined as net passenger revenue divided by operating expenses. For the District's rail operations this ratio is budgeted to increase from 58.2% in FY97 to 58.5% in FY98. ADA paratransit service is forecast to have an 6.4% farebox ratio. The systemwide farebox ratio for all modes is budgeted to be 56.6% in FY98, increasing from FY97's 55.8%.

Operating Ratio

The system operating ratio is defined as total operating revenue divided by total operating expenses. Better than anticipated operating revenue collections in FY97 resulted in a 61.3% operating ratio, which compares favorably to the 60.5% operating ratio budgeted in FY98.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile was 26.3¢ in FY97. The FY98 budget calls for this measure to increase 3.8% to 27.3¢ per passenger mile. This change reflects the increased expenses related to the resumption of PERS pension payments, a 23.6% increase in track miles and an 8.3% increase in stations, combined with the gradual phasing in of the ridership along these new facilities.

FISCAL PLANNING PRINCIPLES AND NEEDS

As presented in the preceding sections, BART's adopted budget for FY98 is the foundation for the SRTP financial plan for fiscal years 1999 through 2008. The discussion below turns to the principles which guided the development of the financial plan. This presentation is followed by a general discussion of BART's overall fiscal needs in the upcoming ten year period. With the principles and needs outlined, details are presented for the base SRTP financial forecast.

Principles For Developing the Financial Plan

BART's financial plan for fiscal years 1999 through 2008 was developed in conformance with MTC's guidelines for preparing SRTPs. These guidelines include the key requirements that the overall SRTP financial plan be fiscally constrained, balanced, and offer a scenario conforming to MTC's forecasts for regional financial assistance and consumer price index (CPI) growth. Accordingly, BART's financial plan is predicated on the following principles:

- **The forecast for passenger revenue should be based on ridership projections which are derived from ABAG/MTC regional growth and transportation models, and should reflect latest regional transportation conditions.** The forecast for passenger revenue begins with BART's projection for core system ridership, which is, in turn, based on the most recent ABAG and MTC data available. This basis is supplemented by an assessment of current conditions and projected impacts. Further, the forecast of passenger revenue incorporates ridership projections for extensions which are identified in adopted environmental documentation. The SRTP financial plan assumes that fare levels are maintained at their current rates.

- **The forecast for non-fare revenue should be realistic and achievable.** The forecast for revenue derived from sources other than passenger fares is also based on BART's projections. Sources for this revenue are either existing, programmed, or

highly likely to be implemented, and are generally assumed to grow at a 2.6% CPI rate through FY05 and a 3.5% annual rate thereafter per MTC's recommendation.

- **The forecast of expense should reflect planned service levels, anticipated one-time or recurring new fiscal requirements, and overall improved levels of productivity.** The forecast of expense was developed using BART's detailed Operations and Maintenance Cost Model, and reflects the fiscal requirements of providing the service levels described in Chapter 2. The expense projections also include the savings resulting from the implementation of cost reduction measures discussed in the introduction to the FY98 preliminary budget, above, and others which could be successfully implemented. Other expense items include the resumption of payments to PERS in FY98, required debt service, and allocations to cover portions of BART's capital program. All unit costs are assumed to grow by a 2.6% annual CPI factor through FY05 and a 3.5% annual CPI factor thereafter.

- **The forecasts for regional sources of financial assistance should include MTC's projections.** MTC's long term forecast for annual sales tax growth in the three BART counties is 5.6%. The FY98 SRTP also assumes no STA or TDA funding for either general operating purposes or ADA paratransit services after FY98. As part of agreements to transition of express bus services to local transit operators, BART has agreed not to claim STA and TDA funds for which the District might be eligible.

- **The forecasts for other sources of financial assistance should be conservatively projected and based on historical data.** The forecast for property tax is based upon 4.0% annual growth, based on a continuation of recent increases in activity in the Bay Area's real estate market.

These financial planning principles, in effect, establish overall parameters for the expenses BART is likely to incur in relation to its sources of income. Within this financial framework are key fiscal needs which influence this SRTP's financial plan. These fiscal needs are discussed in the following section.

BART's Fiscal Needs

BART's key fiscal needs in the current SRTP timeframe are well documented and have been identified in prior SRTPs and CIPs, the District's budget pamphlets for FY97 and FY98, as well as in other reports. All of the District's key fiscal needs relate to the fact that BART is both an aging and growing system. The key fiscal needs stem from the requirement to provide additional funds for system renovation and extensions operations, and comply with federal ADA paratransit service requirements.

In May 1994, the District and MTC jointly adopted a cooperative funding program to address BART's most immediate needs for system renovation. This agreement calls for MTC to program $450.8 million for BART renovation projects, and for BART to internally generate $200.5 million as its match to the proposed grant funds. The SRTP and CIP,

in fact, propose generating substantially more than $200.5 million, in order to fund additional essential capital projects, beyond the scope of the agreement with MTC. The strategy for raising the funds needed for system renovation included a series of three planned bond issues and the fare increase package adopted in January 1995. The debt service requirement for the first and most of the second issues of these bonds is covered by the fare increase package (i.e., through FY98). The third issue of system renovation bonds is scheduled to add $14 million in debt service expenses in FY00.

In addition to the above fiscal obligations is the projected need for $76.3 million to support BART's ten-year capital program (refer to the FY98 CIP). This fiscal requirement has recently been identified under MTC's revised capital program fund projections.

Another key fiscal consideration is ADA paratransit service. In January 1997, BART came into full ADA compliance per the federal mandate. As discussed above, the District's FY98 budget provides for full ADA paratransit service support, budgeted at $6.1 million.

BASE FINANCIAL FORECAST AND ASSUMPTIONS

The following sections present individual elements contained in BART's base financial forecast. As shown in Figure 3-2, the base forecast builds upon the District's FY98 adopted budget and consists of fiscal year projections for revenue, expense, financial assistance, debt service, and other required allocations. The process used to develop the base forecast is discussed below. Identified are cost reduction measures, adjustments to revenue and expense, and the underlying assumptions for each element.

Operating Revenue Forecast

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Rail Passenger Revenue

The basis for projecting rail passenger revenue is the rail ridership forecast presented in Chapter 2. Gross fare revenue is then reduced by BART's systemwide discount rate to account for the use of discounted tickets and passes. This step converts the forecast of gross fare revenue to a net revenue, which represents the actual passenger fares BART is forecast to receive. In calculating rail passenger revenue, the SRTP financial model also adjusts ridership to account for previously approved fare increases and associated erosion of demand. Based on the methodology described above, rail passenger revenue is projected to increase, from $166.7 million in FY99, to $238.6 million in FY08.

Figure 3-2: FY98 SRTP Base Financial Forecast

2.6% ANNUAL CPI GROWTH THRU FY05, 3.5% THEREAFTER, & 5.6% ANNUAL SALES TAX GROWTH ALL YEARS

All Dollar Figures are in Millions and are Rounded

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	Adopted Budget FY 98	FY 99	FY 00	FY 01	SFO 9/30/01 FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08
REVENUE											
Net Rail Passenger Revenue	161.4	166.7	171.1	175.5	200.9	214.8	222.2	228.0	231.6	235.0	238.6
SFIA $1.50 Premium Surcharge Revenue	0.0	0.0	0.0	0.0	2.5	4.0	4.8	5.4	5.5	5.6	5.7
Net Express Bus Passenger Revenue	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADA Service Passenger Revenue	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6
Total Net Passenger Revenue	162.1	167.1	171.5	175.9	203.9	219.4	227.5	234.0	237.7	241.2	244.9
Interest Revenue	7.3	7.5	7.7	7.9	8.1	8.3	8.5	8.7	9.0	9.3	9.7
TRACS Revenue	0.0	1.6	1.6	1.7	1.7	1.9	1.9	1.9	2.0	2.0	2.2
Other Operating Revenue	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.6	4.7	4.9	5.1
Subtotal Non-Fare Revenue	11.1	13.0	13.3	13.7	14.0	14.5	14.8	15.2	15.7	16.2	16.9
Total Operating Revenue	173.2	180.1	184.8	189.6	217.9	233.9	242.3	249.2	253.4	257.5	261.8
EXPENSE											
Net Labor	201.0	207.8	214.5	220.6	241.8	258.2	265.8	273.5	283.8	294.1	304.7
PERS	9.2	8.4	8.6	11.1	12.2	13.0	13.4	13.8	14.3	14.9	15.4
Traction/Station Power, with lease costs	18.8	18.8	18.9	18.9	21.0	22.5	23.0	23.6	24.3	25.2	26.1
SFIA Rent	0.0	0.0	0.0	0.0	1.9	2.5	2.5	2.5	2.5	2.5	2.5
Other Non-Labor	46.7	48.7	49.3	51.0	54.4	57.7	58.9	61.0	63.1	65.3	67.6
Subtotal Net Rail Expense	275.8	283.7	291.4	301.7	331.3	353.9	363.6	374.3	388.0	401.9	416.3
Express Bus Service	1.9	2.5	2.6	2.6	2.7	2.8	2.8	2.9	3.0	3.1	3.2
Shuttle Service	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Purchased Transportation (MUNI)	1.9	2.1	2.3	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.5
Purchased Transportation (SamTrans Serv Agrmt)	0.7	1.2	1.1	1.0	2.5	7.3	7.7	0.0	0.0	0.0	0.0
ADA Paratransit Service	6.1	6.3	6.5	6.7	7.3	7.8	8.0	8.2	8.6	8.9	9.2
Subtotal Non-Rail Expense	10.7	12.2	12.5	12.8	15.1	20.6	21.5	14.2	14.8	15.4	16.0
Total Operating Expense	286.4	295.8	303.9	314.5	346.4	374.5	385.2	388.6	402.9	417.3	432.4
OPERATING DEFICIT	(113.3)	(115.7)	(119.1)	(124.8)	(128.5)	(140.7)	(142.8)	(139.4)	(149.5)	(159.9)	(170.6)
FINANCIAL ASSISTANCE											
Sales Tax Proceeds (BART 75%)	142.7	150.7	159.2	168.1	177.5	187.4	197.9	209.0	220.7	233.1	246.1
Property Tax Proceeds	13.1	13.7	14.2	14.8	15.4	16.0	16.6	17.3	18.0	18.7	19.5
STA & TDA Assist for ADA & Gen Op	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Financial Assistance	157.4	164.4	173.4	182.9	192.9	203.4	214.6	226.3	238.7	251.8	265.6
DEBT SERVICE & ALLOCATIONS											
System Renovation Bond Debt Service	(18.7)	(30.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)	(44.8)
90 & 91 Sales Tax Revenue Bond Debt Service	(20.1)	(20.2)	(20.3)	(20.4)	(20.5)	(20.6)	(20.7)	(20.9)	(21.0)	(21.1)	(21.3)
SFO Substation Debt Service	0.0	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
SF CAPRA Debt Service	0.0	0.0	0.0	(5.6)	(5.6)	(5.6)	(5.6)	(5.6)	(5.6)	(5.6)	(5.6)
BART-SamTrans Allocation to E. Bay Ext.	0.0	0.0	0.0	0.0	(0.5)	(4.8)	(5.2)	(17.0)	(16.6)	(15.9)	(15.2)
Capital Program Allocations	(5.3)	(3.8)	(2.9)	(2.2)	(9.4)	(4.5)	(12.9)	(16.3)	(19.3)	0.0	0.0
PERS Reserve Account	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Debt Service & Allocations	(44.1)	(52.7)	(69.0)	(74.1)	(81.9)	(81.4)	(90.4)	(105.7)	(108.3)	(88.5)	(88.0)
ADDITIONAL COST CONTAINMENT & REVENUE ENHANCEMENTS	0.0	4.0	14.7	16.0	17.5	18.6	18.7	18.8	19.1	0.0	0.0
ANNUAL FINANCIAL RESULT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	7.0
BEGINNING YEAR BALANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
CUMULATIVE BALANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	10.4
PATRONAGE											
Systemwide Average Weekday Trips	264,838	273,723	279,825	286,471	315,164	333,084	343,829	352,456	357,724	363,087	368,547
Systemwide Total Annual Trips	76,930,467	79,379,591	81,149,252	83,076,652	91,397,684	96,818,000	99,977,470	102,513,762	104,022,172	105,521,435	107,047,892

Trips which involve San Mateo County station use are identified as part of a special analysis to determine the level of San Mateo County surcharges included in Net Rail Passenger Revenue. This update of the SRTP includes the provisions in regard to these surcharges from the following agreements executed for the implementation of the San Francisco Airport Extension: the BART-SamTrans Comprehensive Agreement (June 1996), the Full Funding Grant Agreement with the Federal Transit Administration (June 1997), and the Lease, Use, and Operating Agreement with the San Francisco International Airport (April 1997).

The BART-SamTrans Comprehensive Agreement was originally executed in 1990, and was substantially modified by a June 1996 Amendment. As it now stands, SamTrans will be responsible for paying any net operating deficit on the BART Extension to San Francisco International Airport. BART and SamTrans have agreed, however, to continue the 76¢ San Mateo surcharge (currently imposed at the Daly City and Colma stations) on the extension's four stations. These surcharges are projected to raise sufficient revenue to cover operating costs and generate a surplus to be pledged to meeting SamTrans remaining buy-in commitment to BART's Eastbay Extensions program. The Net Rail Passenger Revenues documented in Table 3-2 assume that, at each of the West Bay extensions stations, a 76 cent surcharge is applied to the regular fare.

The Lease, Use, and Operating Agreement with the San Francisco International Airport (SFIA) will require BART to pay $2.5 million in annual rent to the SFIA. This rental payment will be funded from additional operating revenues. The Agreement also requires that airline employees using the BART-SFIA station receive a 25 percent discount off their fares. The proceeds from these additional surcharges and the approximately $1 million revenue loss associated with the airline employee discount are both included in the Net Rail Passenger Revenue line in Table 3-2.

San Francisco International Airport Premium Surcharges

In FY02, with the initiation of revenue service on the Extension, the District will, if need be, implement an additional $1.50 surcharge on all trips using the BART station at the San Francisco International Airport. Per the terms of the Full Funding Grant Agreement (FFGA) with the FTA, the incremental revenues associated with these surcharges will be pledged towards a capital reserve account (CAPRA) dedicated to funding potential cost overruns on the San Francisco Airport Extension.

The imposition of this $1.50 surcharge, in conjunction with the other surcharges imposed at this station, will result in a 15% fare-elasticity driven reduction to the FEIR/FEIS FY10 ridership estimate of 17,800 daily entries and exits. The incremental revenue associated with this surcharge would, however, be nearly $4 million in FY03, growing to over $5.7 million by FY08. If cost overruns do not materialize on the construction of the San Francisco Airport Extension, then the District will be able to avoid having to impose this premium surcharge, and its impact on ridership at the SFIA station.

Express Bus Passenger Revenue

No passenger revenue for express bus service has been forecast for the ten-year planning period, reflecting the complete transitioning of express bus service to adjacent local operators by June 30, 1998.

ADA Paratransit Passenger Revenue

Projected passenger revenue for ADA paratransit service reflects current and anticipated cost-sharing agreements BART has with Bay Area transit operators. After the first full year of ADA compliance, FY98, ADA paratransit passenger revenue assumes that ridership for this service will grow at approximately the same rate as rail ridership. BART's forecast for ADA paratransit passenger revenue is $0.4 million in FY99, growing to $0.6 million by FY08.

Total Net Passenger Revenue

BART's total net passenger revenue, consisting of the revenue from the above sources is forecast to grow from $167.1 million in FY99 to $244.9 million in FY08.

Operating Revenue From Sources Other Than Fares

Approximately one third of BART's non-passenger fare revenue is generated through concessions, advertising, rent and lease agreements including joint development, parking collections (currently at Lake Merritt Station and Coliseum special events only), fines and forfeitures, and miscellaneous other sources. The total amount of revenue from these sources is forecast to grow by the 2.6% and 3.5% annual CPI growth rates, from $3.9 million in FY99 to $4.9 million in FY08. Beginning in FY99, additional operating revenue is forecast to be generated by a telecommunications fiber optics project (TRACS). Revenue for current contracts is anticipated to yield $1.6 million in FY99 growing to $2.2 million by FY08. The remaining non-passenger revenue is derived from interest earnings on operating fund balances. This source of revenue is forecast to generate $7.5 million in FY99, growing to $9.4 million in FY08.

Total Operating Revenue

Based on the forecasts for passenger and non-passenger revenue line items discussed above, BART's revenue is projected to grow from $180.1 million in FY99 to $261.8 million in FY08.

Operating Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model output was calibrated to the FY98 preliminary budget, with adjustments made to reflect deficit reduction measures, non-linear expense items, and anticipated revisions to unit costs.

Inputs to the cost model reflect the service levels for both rail and express bus, as discussed in Chapter 2. Other expenses, such as ADA paratransit, were added to the modeled forecast.

Key inputs to the Operating and Maintenance Cost Model include:

- Annual passenger trips
- Number of routes and route miles of track
- Number and configuration of stations (i.e., subway, at-grade, etc.)
- Peak online trains and cars
- Number of cars in the fleet
- Annual car miles
- Annual train hours
- Annual express bus hours

Additionally, the model input includes assumptions for the consumer price index. The 1998 SRTP assumes a 2.6% annual CPI growth rate through FY05 and a 3.5% annual CPI growth rate thereafter.

Staffing and Labor Expense

Labor expense growth reflects the increases in staff needed for expanding system operations for extensions. The largest increases in staffing are forecast to occur in fiscal years during which new extensions service begins. Labor expense is forecast to grow from $207.8 million in FY99 to $304.7 million in FY08.

Public Employee Retirement System Expense

As a result of favorable balances, BART has not been required to make payments to PERS since FY89. However, BART does anticipate that it will be required to resume PERS payments in FY98. The amount in FY99 is forecast to be $8.4 million, and is assumed to grow in proportion to annual labor expense increases to $15.4 million in FY08.

Traction and Station Power Expense

Power expense is a model output, and is forecast largely on the basis of car miles and number of stations. The basic cost per unit of power is assumed to be flat through FY01, per a tentative five year PG&E rate freeze. From FY02 to FY05 the basic cost per unit of power is assumed to grow at 2.6% annually. From FY06 to FY08 a 3.5% unit cost growth rate is assumed.

Anticipated savings from the purchase of federal power are included in BART's power expense forecast. The same growth for these savings is assumed (i.e., flat for five years, then at CPI). These savings are estimated to be $5.0 million annually from FY99 through FY00, $5.6 million in FY01 (although the unit rate remains flat, the savings grow with the addition of service to Millbrae), and increasing to $6.6 million in FY08. The resulting expense for traction and station power is forecast to be $18.8 million in FY99, and increasing to $26.1 million in FY08.

SFIA Rental Payment

As discussed in the Revenue section, BART will implement a modest surcharge at its six San Mateo County stations for the purpose of making a $2.5 million annual rental

payment to the SFIA. This payment will begin in the second quarter of FY02, and will remain at $2.5 million per year over a 50 year period.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous expenses are forecast to increase from $48.7 million in FY99 to $67.6 million in FY08.

Express Bus Service Expense

In accordance with the negotiations with MTC and the local bus operators serving BART's current express bus corridors, the FY98 SRTP assumes that, in lieu of contracting out directly for this service, BART will simply make a $2.5 million annual subsidy payment beginning in FY99 to these operators. This payment is projected to grow at the assumed 2.6% and 3.5% annual CPI growth rates. It will help compensate these local bus operators for the net operating losses associated with taking over service in these corridors.

Shuttle Bus Expense

BART's expense for shuttle bus service includes payments to the Port of Oakland in support of Oakland Air-BART, and temporary shuttles such as those needed for bus bridges due to cessation of rail service. This expense is forecast to grow at 2.6% annually through FY05 and 3.5% annually thereafter and amounts to approximately $0.1 million in each fiscal year from FY99 through FY08.

Purchased Transportation (Muni)

The formula which defines the reimbursement for providing feeder service to BART from MUNI is tied to sales tax growth. Purchased transportation expenses for MUNI transfers is forecast to grow from $2.1 million in FY99 to $3.5 million in FY08.

Purchased Transportation (SamTrans)

BART is obligated by the BART-SamTrans Agreement to pay to SamTrans any fare surcharge revenues collected at its Colma Station which are not required to cover the District's cost of providing service to this station. A surplus payment of $700,000 is budgeted for FY98. This amount will increase to $1.2 million in FY99, as ridership increases at the Colma Station. Eventually, these payments will decline slightly as marginal costs grow by inflation and fare revenue growth levels out. Payments to SamTrans will increase again in FY02 because, per the amended BART-SamTrans Agreement, SamTrans is entitled to half of the San Francisco Airport Extension net operating surplus during its first three years of operation. After these three years pass, all net operating surpluses generated will accrue to BART's Eastbay Extensions.

ADA Paratransit Service Expense

Expense for ADA paratransit service assumes the current and anticipated cost-sharing agreements BART has, or will have, with other Bay Area transit operators through FY98. In subsequent years, ADA expenses are assumed to increase at the same rate

as rail operating expenses. On this basis, ADA paratransit expense is forecast to grow from $6.3 million in FY99 to $9.2 million in FY08.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $295.8 million in FY99 growing, by the combination of system expansion and CPI growth, to $432.4 million in FY08.

Financial Assistance Forecast

Financial assistance to support BART operations comes from a variety of sources as was identified in the FY98 preliminary budget portion of this chapter. The forecast for financial assistance through FY08 is discussed in the following sections:

Sales Tax Financial Assistance

Sales tax revenue is the single largest source of financial assistance the District receives for operations. The base long term forecast for sales tax growth of 5.6%. This forecast matches MTC's regional growth rate projections for sales tax revenue in the three-county BART district. With these MTC growth factors the amounts collected would be $150.7 million in FY99, which grows to $246.1 million in FY08.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 4.0% annually between FY99 through FY08. Financial assistance from property taxes is forecast to be $13.7 million in FY99, growing to $19.5 million in FY08.

STA & TDA Financial Assistance

As stated in the FY98 adopted operating budget section of this chapter, BART has agreed to relinquish claims on STA and TDA funds in the amount necessary to meet terms of the BART express bus transition agreements with local transit operators.

ADA Paratransit Financial Assistance

The 1996 SRTP identified STA and TDA as being the principle sources of ADA paratransit funding. With minimal or no STA and TDA forecast to be available (i.e., per the discussion in the previous section), this SRTP assumes that BART will fund ADA paratransit service directly from operating revenue sources.

Total Financial Assistance

Total financial assistance from all of the above sources is projected to grow from $164.4 million in FY99 to $265.6 million in FY08.

Debt Service and Allocations

BART's base financial forecast includes fiscal obligations from operating sources for debt service and other required allocations. These items are discussed in the following:

System Renovation Bond Debt Service

This debt service consists of three issues of bonds, the proceeds of which are slated to be used primarily for system renovation. The first series of these bonds was issued in May 1995. The second series of bonds is scheduled to be issued in 1998, with the third series to follow in 1999. The total debt service for these three issues is shown in Figure 3-2 on the System Renovation Debt Service line item, which grows from $18.7 million in FY98 to $44.8 million in FY08.

1990 and 1991 Sales Tax Revenue Bond Debt Service

Debt service for the 1990 and 1991 sales tax revenue bonds is based on the respective payment schedules for these issues. According to these schedules, this annual debt service is $20.1 million in FY98 and remains virtually flat through FY08. The debt service payments on these bonds will conclude in 2012.

SFO Substations Debt Service

BART plans to issue bonds to pay for the purchase of traction power substations serving the San Francisco Airport Extension. The roughly $1 million annual debt service obligation related to financing the purchase of this substation is less, in net present value terms, than the operating cost to BART of leasing this substation from a third party.

SFO Capital Reserve Account (CAPRA)

The pending FFGA for the San Francisco Airport Extension includes a section which requires BART to set aside $72 million in a CAPRA dedicated towards paying for potential cost overruns on the San Francisco Airport Extension. The first $7.5 million pledged towards this CAPRA is included in the Capital Allocations line item for years FY97 through FY00. Beginning in FY01, the District will, if need be, issue $64.5 million in bonds which are backed by the revenue generated from the 76 cent surcharge collected at Daly City Station and the revenue generated by an additional $1.50 surcharge on all trips using the San Francisco International Airport BART Station. This $64.5 million in bond proceeds would have an annual debt service requirement of $5.6 million.

It should, again, be stated that if cost overruns fail to materialize on the San Francisco Airport Extension, then these debt service costs will not have to be incurred.

BART-SamTrans Agreement Allocation to East Bay Extensions

Beginning in FY02 with the implementation of the San Francisco Airport Extension, the District will transfer net operating surplus revenues generated from this service towards the District's Eastbay Extensions program. For the first three fiscal years of revenue service SamTrans will share this surplus evenly with BART. In FY05 -- the fourth year of operations -- the entire $17 million projected surplus will be transferred to the East Bay Extensions Program. These surpluses could grow after FY05 to the extent that fare revenues outpace the operating costs attributed to the extension by the detailed fully allocated cost formula included in the BART-SamTrans Comprehensive Agreement. Surpluses will accrue entirely to BART's East Bay Extensions until all of SamTrans

$145 million remaining Buy-in commitment is liquidated. Annual surpluses will be split by the two parties once this $145 million is generated.

Capital Program Allocations

The base financial forecast includes a cumulative allocation of $76.4 million between FY98 and FY06 to support the District's capital program fiscal needs over the planning period (refer to BART's FY98 CIP). Without this allocation, critically needed projects would have to be delayed. As shown in Figure 3-2, annual capital allocations in the range of $2 million to $9 million are provided in FY98 through FY03. Larger annual capital allocations, in the $13 million to $19 million range, are provided in FY04 through FY06.

PERS Reserve Account Allocations

To reduce the District's liability with regard to resumption of PERS payments, a total of $3.2 million was budgeted and allocated to a special PERS account during FY96 and FY97. The financial forecast assumes these funds will be used to offset the District's $8.4 million payment to PERS in FY99.

Total Debt Service and Allocations

Based on the above considerations, BART's total debt service and allocations are forecast to be $52.7 million in FY99. Annual debt service and allocations will reach a high of $108.3 million in FY06, and end at $88.0 million in FY08

Additional Cost Containment and Revenue Enhancements

The base financial forecast assumes BART will continue to prudently manage its operations during the current SRTP planning period, consistent with past practices. The District employs a conservative approach to planning, budgeting, and budget management. Inherent in this process are ongoing efforts to evaluate all line-item expenses to identify opportunities to contain costs and increase productivity. This management approach has enabled BART to make optimal use of funds and to continue to improve the system. This fact is underscored in Figure 3-3, which identifies actual fiscal year expense for fiscal years 1986 through 1997. Actuals are compared to the corresponding expense identified in each fiscal year's adopted budget. This comparison also includes the forecasts of expense identified in the SRTPs which were published five years earlier.

As indicated in Figure 3-3, the District has a record of consistently spending substantially less in any given fiscal year relative to amounts forecast five years earlier for the same fiscal year. It is reasonable to assume, as this base forecast does, that this trend will continue. If the past holds any lessons for the future, it is that the District will continue to evaluate all aspects of how it conducts business, both at the macro and micro levels; and that future implementation of cost containment measures will occur as BART continues to prudently manage its operations. With the ten year $3.7 billion program presented in this SRTP's base forecast, every 1% savings translates to a $36.6 million reduction in total program costs over the ten years.

Figure 3 - 3

ANNUAL BUDGET & SRTP FORECASTS vs ACTUAL EXPENSE

Variances Reflect Efforts to Contain and/or Reduce Costs

As Well as Changes in Assumptions for Extension Start Dates, Fleet Size, and CPI

Dollar Figures in Millions

Fiscal Year	Actual Expense	ADOPTED BUDGET, 1-YEAR LOOK		SRTP, 5-YEAR LOOK	
		Forecast	% vs Actual	Forecast	% vs Actual
86	160.9	163.9	1.9%	185.7	15.4%
87	162.2	174.5	7.6%	198.0	22.1%
88	167.8	171.8	2.4%	205.4	22.4%
89	172.2	174.6	1.4%	224.9	30.6%
90	193.0	193.3	0.2%	220.4	14.2%
91	206.7	208.2	0.7%	236.8	14.6%
92	213.7	219.9	2.9%	223.7	4.7%
93	210.4	213.0	1.2%	217.0	3.1%
94	217.4	220.3	1.3%	233.6	7.5%
95	218.3	227.0	4.0%	256.0	17.3%
96	244.3	240.1	-1.7%	297.1	21.6%
97	267.7	269.1	0.5%	319.7	19.4%
Average	---	---	**1.7%**	---	**15.8%**

Note: The FY 86 actual expense, for example, is compared to the corresponding annual budget which is adopted one year earlier. FY 86 actual expense, in this example, is also compared to the SRTP forecast formulated five years earlier, in 1981.

Cost containment is a significant aspect of how BART has provided and will continue to provide sufficient resources to meet its financial needs, while improving and expanding service. A second important aspect of BART's overall financial strategy is revenue enhancement.

Consistent with past efforts, the District will continue to pursue opportunities to procure local, state, and federal financial assistance. The District will also continue to develop and implement programs to generate additional revenues from sources other than passenger fares.

BART is also pursuing several revenue enhancement programs including joint development projects, additional lease agreements for fiber optics facilities, and special joint advertising and promotions programs. Should the above cost containment and revenue enhancement programs prove insufficient to fund a deficit in any given year, BART is prepared, as it has been in the past, to consider modest fare increases as part of the solution.

Based on past efforts and others described above, the base financial forecast assumes a net yield resulting from a combination of cost containment measures and/or increased financial assistance of $4.0 million in FY99. This yield is forecast to increase to between $15 million and $19 million annually between FY00 and FY06. With financial assistance expanding at a greater rate than expenses and debt service, there will be no net yield required from these measures in FY07 and FY08.

Financial Performance and Indicators

Farebox Ratio

As documented in Figure 3-4, the farebox ratio for rail operations is forecast to start out at 58.8% in FY99, and grows to 61.1% in FY04, reflecting the full build up of the ridership and revenue for the San Francisco Airport extension. Assuming no fare increases in the SRTP period, the rail operations farebox ratio will decline after FY04 to 57.3% by FY08. The ADA paratransit farebox ratio is forecast to remain at or about 6.5% over the 10 year period. The systemwide farebox ratio is forecast to be 56.5% in FY99, growing to 60.2% in FY05 before declining to 56.6% in FY08.

Operating Ratio

The system operating ratio is forecast to be 60.9% in FY99, increasing to 64.1% in FY05, and then decreasing to 60.5% in FY08.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile is projected to be 26.0¢ in FY99. Longer extension trips in later years help BART to improve this level of productivity by FY05 when the projected rail cost per passenger mile is 24.8¢. Higher annual CPI growth beginning in FY06 results in these unit costs growing to 26.3¢ by FY08.

Figure 3 - 4

FY 98 SRTP
BASE FINANCIAL FORECAST
Financial Performance Indicators

		Adopted Budget FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08
Farebox Ratios:	Rail	58.5%	58.8%	58.7%	58.2%	60.6%	60.7%	61.1%	60.9%	59.7%	58.5%	57.3%
	ADA	6.4%	6.4%	6.4%	6.4%	6.7%	6.7%	6.7%	6.7%	6.6%	6.4%	6.3%
	System	56.6%	56.5%	56.4%	55.9%	58.9%	58.6%	59.1%	60.2%	59.0%	57.8%	56.6%
System Operating Ratio		60.5%	60.9%	60.8%	60.3%	62.9%	62.4%	62.9%	64.1%	62.9%	61.7%	60.5%
Rail Cost Per Passenger Mile		$0.273	$0.260	$0.259	$0.261	$0.251	$0.250	$0.248	$0.248	$0.253	$0.258	$0.263

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ALTERNATIVE FUTURES

As the District's 25 year operating record shows, BART has been successful in adjusting and responding to a wide range of fiscal changes, demands which have been precipitated over the years by anticipated as well as unanticipated events and conditions. The SRTP has and continues to play a vital role in this planning process, by identifying possibilities and concerns beyond the immediate budget year which may require management attention and eventual action. In this respect, the SRTP has acted as a kind of early warning system, effectively alerting management and the Board to emerging opportunities and issues.

Consistent with past practice, this SRTP looks at conditions which might cause variances in key assumptions used in the base forecast. The base forecast is particularly sensitive to changes in CPI growth assumptions which directly impact expenditure projections, and to changes in sales tax receipts growth factors since this is the single largest component of the financial assistance the District receives for operations.

As noted earlier in this chapter, the base financial forecast uses the MTC recommended CPI growth factors of 2.6% and 3.5% and sales tax growth factor of 5.6%. For planning purposes, it seems prudent to look at how BART's financial needs might change given slightly higher early CPI growth and lower sales tax growth. Using more conservative projection factors of 3% CPI growth and 4.8% sales tax growth, the District would have to begin instituting cost containment or revenue enhancement programs in FY99 yielding roughly $6 million. These measures would have to grow to over $30 million per year by FY03 in order to maintain the planned allocations to capital within the scheduled time frame.

CONCLUDING REMARKS

As described in this SRTP, BART's future includes substantial changes and capital needs which will be addressed over the course of the next decade. From an operations perspective, BART will continue to implement system renovation and service expansion programs. The District is committed to provide uninterrupted high-quality service through this transition period. This commitment can and will be achieved through continued planning and evaluation, timely decision making, and effective and efficient management. These keys to success will enable BART to continue to provide safe, reliable, and efficient transportation well into the next century.

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